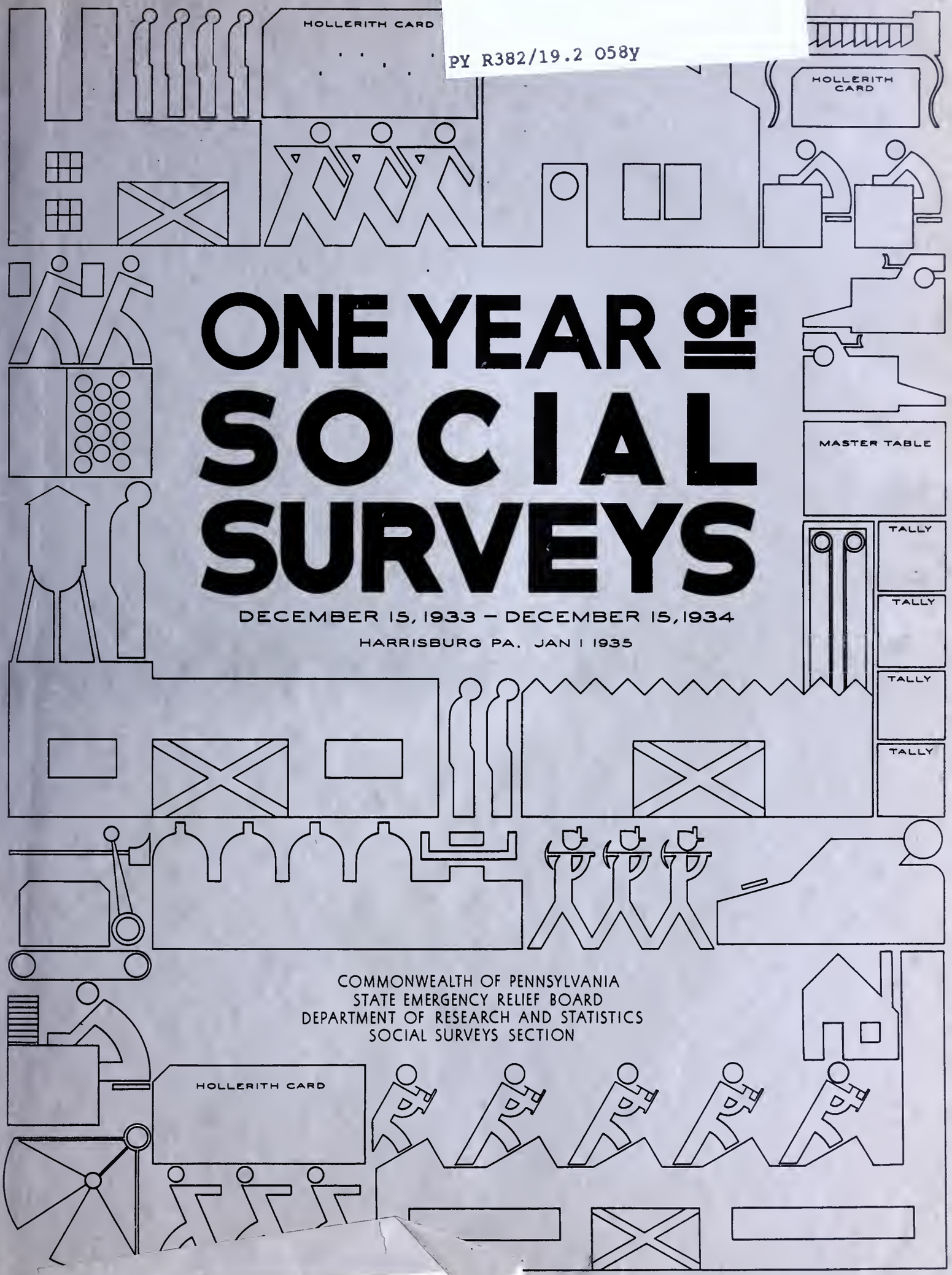


# ONE YEAR OF SOCIAL SURVEYS

DECEMBER 15, 1933 – DECEMBER 15, 1934

HARRISBURG PA. JAN 1 1935

COMMONWEALTH OF PENNSYLVANIA
STATE EMERGENCY RELIEF BOARD
DEPARTMENT OF RESEARCH AND STATISTICS
SOCIAL SURVEYS SECTION

# ONE YEAR OF SOCIAL SURVEYS

A report submitted by the Social Surveys Section of the Department of Research and Statistics, Pennsylvania State Emergency Relief Board, dealing with organization, methods, personnel, costs, and expenditures.

PENNSYLVANIA STATE MUSEUM BUILDING
HARRISBURG, PENNSYLVANIA
JANUARY 1, 1935

COMMONWEALTH OF PENNSYLVANIA
STATE EMERGENCY RELIEF BOARD
HARRISBURG

Social Surveys - State Museum Building
January 1, 1935

Emmett H. Welch, Director
Department of Research and Statistics
State Emergency Relief Board
Harrisburg, Pennsylvania

Dear Mr. Welch:

I have the honor of submitting to you a report of the activities of the Social Surveys Section - one year of Social Surveys December 15, 1933 to December 15, 1934. In addition to serving as an account of activities, it is hoped that this report may provide source material in the field of social research.

I wish to take this opportunity to thank the various departments of the State Government, The State Employment Service, The National Reemployment Service for able assistance, and the hundreds of citizens throughout the State who volunteered the use of office space and equipment during the survey. Without their assistance the survey would have been impossible. I appreciate also the efforts of the thousands of workers: the enumerators who collected the schedules; the coders; the machine operators; the clerks, who tabulated the data; and the members of the administrative staff who gave unsparingly of both their time and energy.

In the preparation of this report I am indebted to Mr. William E. Orr, Jr., for the chapter on methodology; to Mr. D. R. Tredinnick and Mr. Harry W. Pease for the financial analysis; to Mr. Alan Q. Peek who supervised the preparation of the charts and graphs; and to the Department Supervisors who gave able assistance in the preparation of the various sections.

In addition, I should like to acknowledge the assistance given the regular drafting staff by Messrs. John H. Richey, George W. Sollenberger, and M. D. Johnson of the State Planning Board, and Messrs. Edwin McKay, Allen Decker, and F. Raudenbush of Sociographics, Philadelphia.

Sincerely yours,

Edward H. Ocker

Edward H. Ocker
Assistant Director
Social Surveys

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# FOREWORD

There has never been complete or even adequate information on social and economic conditions in Pennsylvania, chiefly because an insistent demand never existed. Few persons aside from some in academic circles, reform groups, and occasional legislative committees were interested in accurate information on unemployment, wages, housing conditions, poor relief, and allied problems.

The depression not only made startlingly evident the fact that very little sound statistical data existed but also provided a means whereby such data could be obtained. Although thousands of professional, technical, and clerical workers were jobless, the relief work plans generally provided only for manual labor. To solve the problem, a series of surveys was planned which would utilize unemployed "white collar" workers in gathering the information necessary if the recovery program of the Administration was to be intelligently developed. The original plan, as the name Social Surveys indicates, provided for an organization that would conduct these studies in a variety of fields. The following is quoted from a memorandum written December 7, 1933, by E. H. Ocker, addressed to E. H. Welch:

> "Suitable studies can be developed in the fields of community, social, and economic research. It is extremely desirable that individual studies be planned so as to be component parts of an extensive social survey of the State. In selecting studies, care should be taken that there be no duplication of accredited existing studies; but, rather, such surveys as are made should supplement existing surveys. Studies should be planned so that, if upon their completion comparative analysis is made of all studies, the final digest will give a comprehensive picture of social-economic conditions in Pennsylvania.
>
> "Studies should be conducted throughout the State in the following fields: (1) Physical aspects of community life; (2) Social aspects of community life; (3) Industrial aspects of community life.

"The methods employed in conducting these studies should be uniform; however, it may prove necessary to vary the methods in individual cases depending upon the material available in previous studies and other conditions. Only an investigation in the field will give the necessary basic information for a final decision as to the best method."

The advantages of a central coordinating organization equipped with a plan of action and a trained staff that could quickly swing into action and not only gather whatever data might be desired but tabulate and relate it to data gathered in other fields should readily be apparent.

Only by means of such an organization can the techniques of enumerating, tabulating, etc.,be standardized. Such items as differences in method, definition, and basic assumptions, make it difficult to relate sets of data gathered by various groups.

Of primary importance at the time of the founding of this organization was a knowledge of the true extent of unemployment. The United States Census Bureau had conducted an Unemployment Census in June, 1930, and again in April, 1931. Changes had taken place which necessitated a recount. Thus it happened that the entire Social Surveys organization had to be built, personnel trained, and procedure worked out while it was conducting an extensive census of unemployment, possibly the most difficult assignment which could have been made.

To do this quickly was essential for two reasons. One was inherent in the very nature of a census - it must be a snapshot of conditions as close as possible to a given instant of time. Secondly, the Administration program made speed essential on any type of large scale "white collar" project in order that the unemployed might be given work to assist them through a most severe winter. To gather and tabulate this data quickly with an untrained staff was a task of considerable difficulty; not only must the schedule be filled out for every urban household in the State, but much

of the information on the schedule was in a form which necessitated coding before it was possible to punch the data on eighty-column Hollerith cards. These cards then had to be inspected and run on sorting machines for the many desired statistical combinations. How this was done appears in the following report.

This report is divided into three major sections: the first, a general discussion of organization, personnel, and management; second, detailed reports of the various departments, a discussion of the methodology, and an analysis of the personnel employed; and third, an analysis of expenditures. Each of these is, in turn, subdivided into chapters dealing with various phases of the subject.

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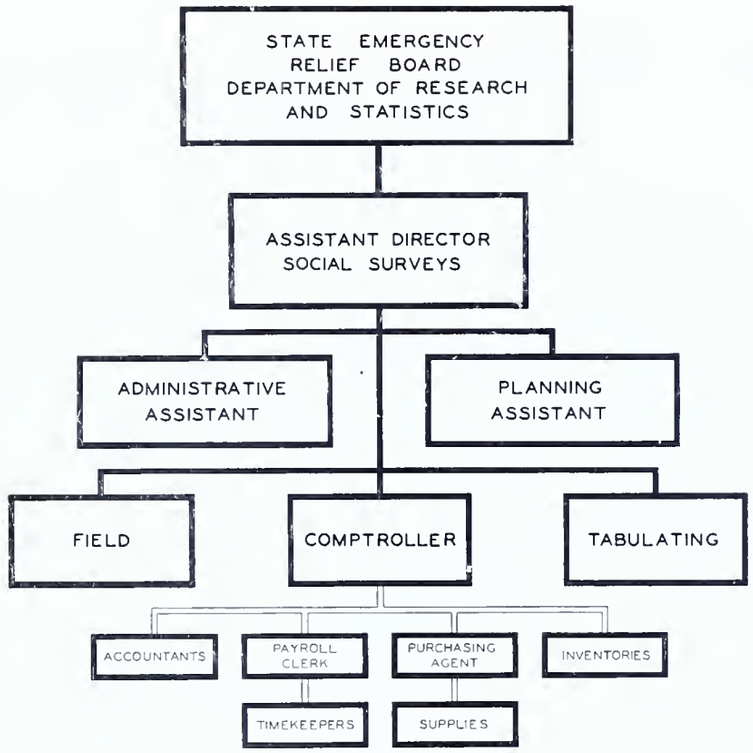
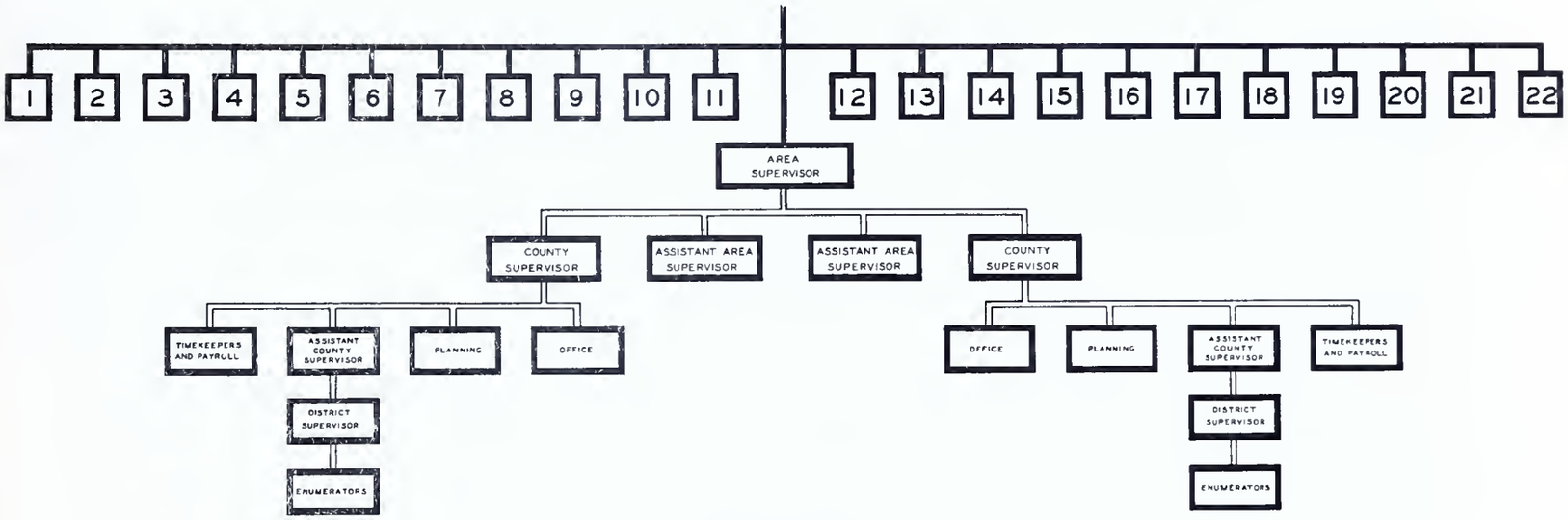
# CHAPTER I

# ORGANIZATION, PERSONNEL, AND MANAGEMENT

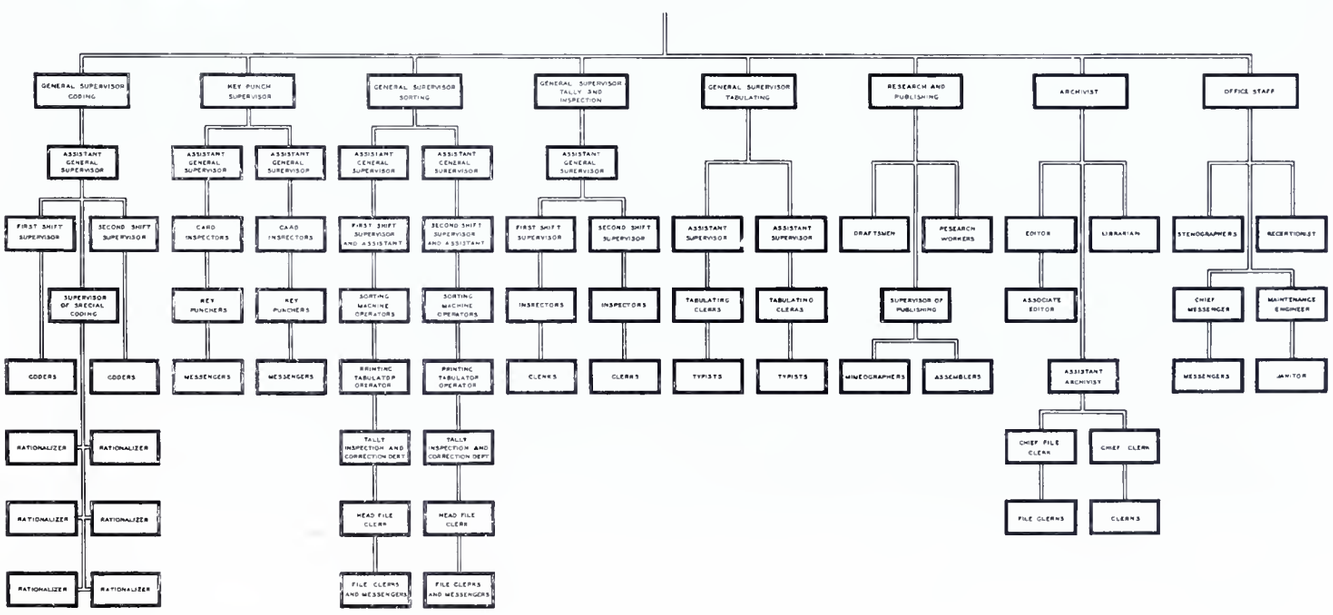
ORGANIZATION OF THE SOCIAL SURVEYS SECTION




FIELD




TABULATING



## THE ORGANIZATION

The Administration of Social Surveys involved the direction of a staff ranging, at various periods, from a few hundred persons to approximately 19,000. During the last year 22,000 of Pennsylvania's "white collar" workers were engaged, at sometime or other, on the project. A discussion of these large groups of personnel - their organization, training, and management follows:

The problem of conducting a census of unemployment of Pennsylvania's population within a short period of time is one of considerable magnitude. Pennsylvania's ten million (10,000,000)population live in approximately two and a half million (2,500,000) households, approximately 800,000 of which are located in Pittsburgh and Philadelphia.

The enumeration of these 2,500,000 households would take 12,500 persons fourteen days of eight working hours. Theoretically the enumeration could be completed in half the time with twice the number of persons but the problem of organization and management would be at least four times as great.

Based on these simple calculations, the personnel requirements of Social Surveys were determined and the organization pyramid that became its field staff was built up. The original plan of organization lists the following personnel requirements:

| | |
|---|---|
| 12,500 | Enumerators |
| 1,250 | District Supervisors |
| 150 | Draftsmen |
| 150 | Assistant County Supervisors |
| 100 | Stenographers |
| 65 | County Supervisors |
| 22 | Area Supervisors |
| 14,237 | |

The functional plan called for 67 county organizations complete in

themselves with an enumerating staff, field or district supervisors, and assistant county or office supervisors, all responsible to county supervisors. The county supervisors were responsible to the area supervisors who, in turn, were responsible to the Assistant Director through an Administrative Assistant. The counties were grouped into areas according to their size, proximity, and transportation facilities.

Approval of the project having been obtained on the 15th of December, 1933, twenty-two men were selected as area supervisors, forming the nucleus of the organization. After two days of intensive discussion of organization method and procedure, the area supervisors went into the field and began to set up the various county organizations. At this point difficulties concerning Washington's approval of the project necessitated its confinement to Philadelphia and urban Allegheny County. With a view toward benefiting as much as possible by the work that had already been accomplished, and building an organization that could at a later date again take the field, the area supervisors were sent to Philadelphia and Pittsburgh to assist in conducting the survey there as regional or section supervisors under the direction of the local area supervisors.

How these organizations developed is pointed out in a report on Philadelphia County activities submitted by the area supervisor: - "We started on Monday, January 8th, with eight (8) people, and by the eighteenth of January we had interviewed, selected, trained, and had on the street making this house to house survey twelve (12) Section Supervisors, two hundred (200) District Supervisors, and nineteen hundred (1900) Enumerators."

Coincidental with the organization of the field staff, plans were laid for the establishment of a tabulating division in Harrisburg to analyze the accumulated data. (In other sections of this report the technique of tabulation is fully discussed)

This organization was planned to comprise five departments, - coding, key punching, inspection, sorting, and tabulating. On the basis of some rather hasty analyses of coding and key punching, the personnel required to meet a production schedule of 30,000 schedules and 100,000 Hollerith cards a day was determined at three eight hour shifts each employing:

100 Coders
100 Key Punch Operators
30 Sorting Machine Operators
30 Inspectors

plus a group engaged in service occupations, approximately 900 persons in all.

The functional plan called for three shift supervisors, each with an assistant, in charge of each department, under the general direction of the Chief of the Tabulating Division. Actual operation made apparent that a sounder plan would be to have general supervision for each department, with shift supervisors for each shift reporting to the Assistant Director through an Administrative Assistant. This reorganization was effected.

Operations sharted with two shifts of 300 persons each. It soon was made obvious by time studies and experience that the Key Punching Department was manned to the extent of being able to handle twice the number of schedules that the Coding Department could code. Normally, reasonable action would require the reduction of the Key Punching Department to half size. This was undesirable for two reasons: (1), as a relief project, it was desirable to keep people at work; (2), and most important, it was necessary to meet the production schedule in order to complete the project within the time allowed for it. Therefore, a coding section was immediately established in Philadelphia, comprised of persons who, having just completed their field work, had knowledge of the schedule.

At the conclusion of the field work in Philadelphia it was decided to

utilize the then highly-trained, efficient field staff to conduct a Real Property Inventory (SS4) similar to the one (RPI) conducted in Allegheny County concurrently with the Unemployment Survey.

At approximately the same time it was decided to extend the Unemployment Survey to cover the rest of the urban communities of the State. This necessitated transferring the twenty men who had been successively Area Supervisors and Regional or Section Supervisors, along with 65 of their assistants, from Philadelphia and Pittsburgh to other sections of the State. County organizations were set up and work proceeded as planned in December.

In order to tabulate the Real Property Surveys of Pittsburgh and Philadelphia and to assist in coding and key punching the state-wide Unemployment Survey, a tabulating division, similar in size and organization to the Harrisburg unit, was established in Philadelphia, using the coding section as a nucleus. A smaller Research and Statistical unit was maintained in Pittsburgh.

At the time of maximum activity, Social Surveys was conducting:

1 - A Survey of Unemployment in 65 counties employing 15,500 persons.
2 - A Real Property Inventory in Philadelphia employ- 2,500 persons.
3 - A Tabulating Division in Harrisburg employing 600 persons.
4 - Intensive (Sample) Real Property Studies in Pittsburgh employing 100 persons.
5 - A Tabulating Unit in Philadelphia employing 500 persons.
6 - A Research and Statistical group in Pittsburgh employing 50 persons.

Thus, there were approximately 19,000 persons on the staff with a weekly pay-roll of $175,000.

Upon the completion of field work and coding and key punching operations, the organization was reduced to comprise the Tabulating and the Research and Statistical Units in Philadelphia, Pittsburgh and Harrisburg.

# SURVEYS CONDUCTED BY THE SOCIAL SURVEYS SECTION OF THE DEPARTMENT OF RESEARCH AND STATISTICS PENNSYLVANIA STATE EMERGENCY RELIEF BOARD 1934

SS-IA AN UNEMPLOYMENT SURVEY IN PHILADELPHIA AND ALLEGHENY COUNTIES - FEBRUARY

SS-IB AN UNEMPLOYMENT SURVEY IN ALL THE COUNTIES IN PENNSYLVANIA EXCEPT PHILADELPHIA AND ALLEGHENY - APRIL

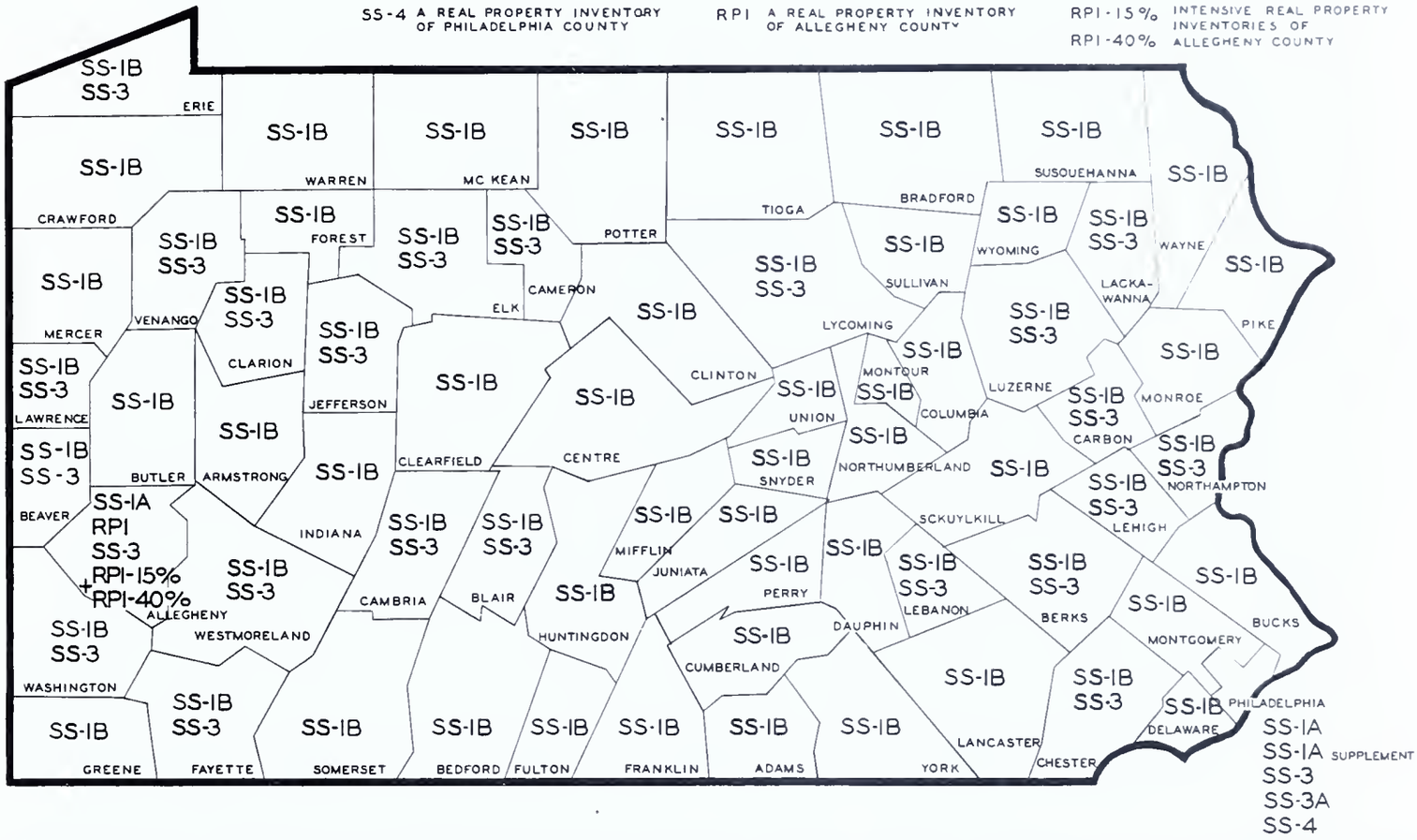
SS-3 A SAMPLE INTENSIVE UNEMPLOYMENT SURVEY IN SELECTED INDUSTRIAL AREAS

SS-3A A SAMPLE INTENSIVE UNEMPLOYMENT SURVEY IN PHILADELPHIA COUNTY

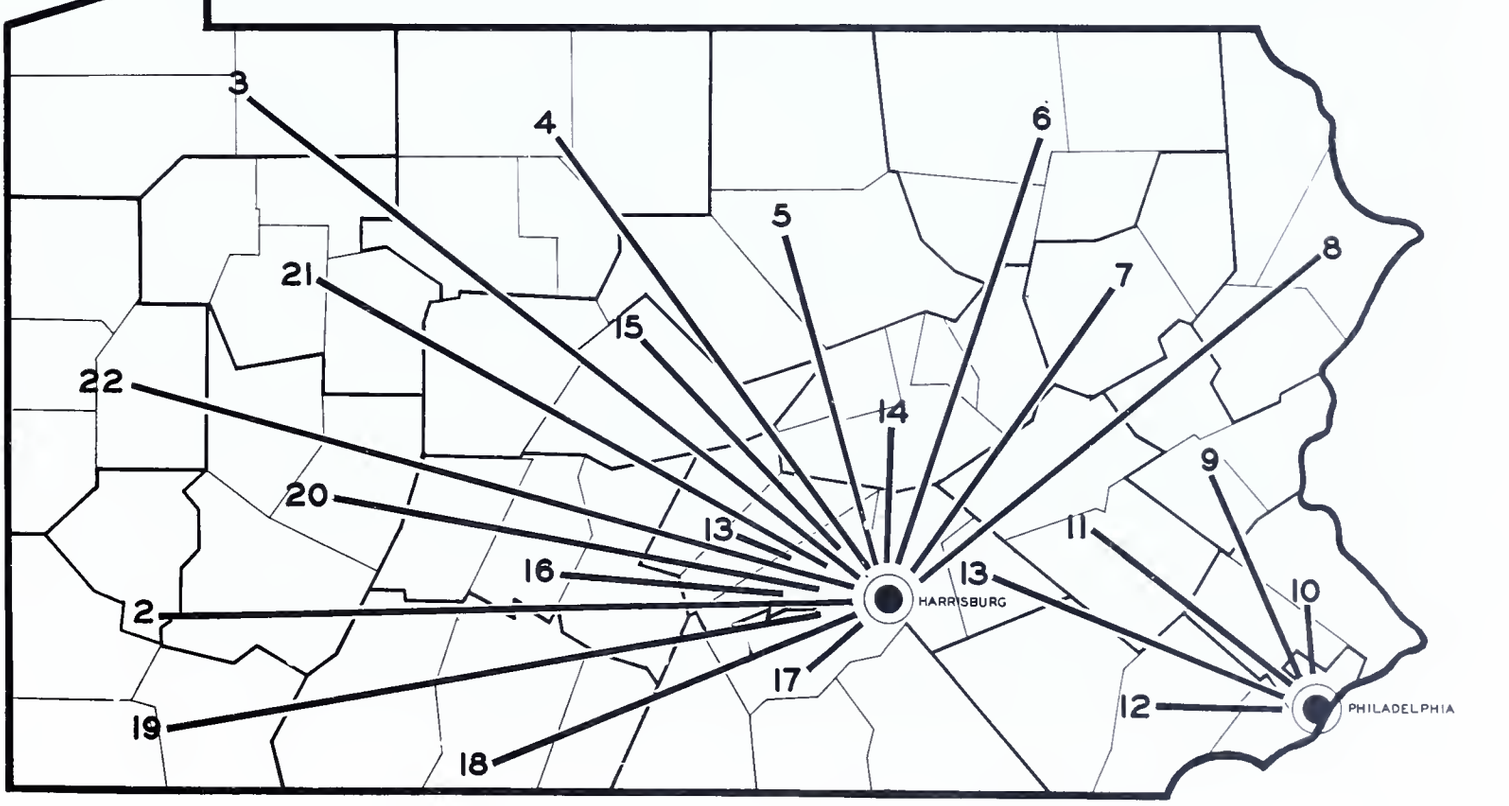
SS-4 A REAL PROPERTY INVENTORY OF PHILADELPHIA COUNTY

RPI A REAL PROPERTY INVENTORY OF ALLEGHENY COUNTY

RPI-15% RPI-40% INTENSIVE REAL PROPERTY INVENTORIES OF ALLEGHENY COUNTY




# AREAS TABULATED BY THE HARRISBURG AND PHILADELPHIA TABULATING UNITS UNEMPLOYMENT SURVEY




SOCIAL SURVEYS SECTION 1934

SOCIOGRAPHICS PHILADELPHIA

## PERSONNEL

When one considers the fact that an organization charged with carrying on a task of such magnitude as the Unemployment Survey must depend upon the free delegation of responsibility it becomes obvious that the selection of competent supervisors is of major concern.

Standard Civil Works procedure made it necessary to employ all line and county field personnel through the facilities of the State and National Employment Services, and it is doubtful whether such large groups of persons could have been employed in any other way. Administrative and Technical personnel were selected with the assistance of the Personnel Division of the State Emergency Relief Board.

Early in the development of Social Surveys procedure, personnel standards were drawn up. A resume of some of these follow:

Area Supervisors

Sex - Male
Education.- College Graduate - Technical, Law, Education, or Social Sciences.
Experience- (1) A number of years of industrial supervisory experience - essential, preferably on large projects with time limitations.
(2) Experience conducting field investigaion in a supervisory capacity.
(3) Conducting fund raising campaigns where organization of voluntary canvassers was involved.

Personal
Qualifications - Must be outgoing, energetic, able to organize and manage large groups of people, able to work without direct supervision, imaginative, accurate, honest and resourceful.

Bulletins sent to all State and Federal Employment offices giveng the qualificatory requirements of field personnel are reproduced herewith.

Enumerators

Must be recruited from among unemployed clerical professional persons and recent college graduates. They need not be taken from relief rolls.

Sex - Male or Female

Education - High school Graduate

Age - 21 - 35

Training - Business or professional

Personal Qualifications

Courteous, tactful, intelligent, pleasant, honesty, good appearance, discreet, accurate, diligent, attentive to detail.

District Supervisors

Must be recruited from among unemployed clerical professional persons and recent college graduates. They need not be taken from relief rolls.

Sex - Male or Female

Education - High School Graduate 5 years' business experience. College Graduates with 2 years' business experience preferred.

Age - 27 - 40

Training - Business or professional

Personal Qualifications

Able to supervise people,
Good at organization,
Able to work without supervision.
Accurate, honest, resourceful.

Coders were required to be:

Sex - Male or Female Age - 21 - 45
Education - High School Graduate or equivalent.
Experience - Clerical work in industry or recent college training. Technical training, nurses, teachers, etc.

Personal Qualifications - Must be able to do detailed work with a high degree of accuracy. Must be neat, diligent, attentive to detail.

Key Punch Operators were required to be:

Sex - Male or Female Age - 21 - 45
Education - High School Graduate or Equivalent
Experience - Operator of Electric Key Punch Machine, Calculator, Comptometer or Adding Machine.

Personal

Qualifications - Able to do detailed work with a high degree of accuracy. Must be alert, should have considerable dexterity on machine operation.

In the selection of enumeration personnel care was taken to employ a number of persons with racial characteristics and linguist abilities similar to those of the population they were to enumerate. This required employing colored persons for colored sections, Italians, Slavs, etc., for foreign speaking sections.

It was to be expected that there would be great variation in the types of persons available throughout the State. The organizations set up in large metropolitan areas were, on the whole, fortunate in finding available many persons of exceptional ability. An analysis of 15,000 persons employed by the organization is given in another section of this report.

Real problems were presented in Harrisburg, where it was found that existing Emergency Organizations such as C.W.A. and P.W.A., and the newly formed Liquor Control Board, etc., had employed large numbers of competent typists, clerks, and supervisors so that the remaining material, from which Social Surveys had to draw, was not of the quality to be obtained in either Pittsburgh or Philadelphia. Naturally, the large urban centers had a greater number of "white collar" workers among whom were more numerous well-qualified applicants than a smaller city could supply.

Very few of the persons employed by the Survey had had previous experience in the work they were expected to perform so that it was necessary to resort to intensive training programs. These briefly, took the following form:

The training of supervisory personnel, both in the field and in the tabulating division, was based on the assumption that persons with inherent

supervisory ability, as evidenced by previous supervisory experience, could direct any group of employees provided that they were sufficiently familiar with the organization policies and the technique of the work. To enable our field supervisors to become accustomed to policies and to the organization, they were employed some time before the enumerators were chosen and immediately set to planning the survey in their counties. They assisted in securing office space and in county districting, and were given every opportunity to become familiar with their duties by actually participating in the planning and development of the program.

Similarly, in the tabulating division, supervisory personnel were employed to assist in the actual planning and organization of the work. Coding supervisors were set to working out codes; key punch supervisors, to designing cards. They participated in planning the organization of shifts and in laying out the work rooms, etc., so that they became thoroughly familiar with the requirements of their jobs and had the necessary understanding of policies,purposes,and procedure before performing any functions as supervisors. This method of training had the added advantage of bringing to the attention of the Administration important details that may otherwise have been overlooked with resultant disaster.

Line personnel - Enumerators, Coders, Key Punch Operators, etc., were trained through the use of well developed programs of group instructions. They were all given examinations and had to meet minimum requirements before they were finally accepted.

The characteristics of the labor supply available in Harrisburg made necessary considerably more training than had been contemplated. A large proportion of the persons recruited as coders and key punch operators had never had previous industrial experience of any kind. They were largely high school and business school graduates who have been unemployed since

graduation. This necessitated a series of discussions on the fundamentals of industrial relationships, and other close supervision.

The progressive nature of the work, which required a sequence of operations between enumeration and the actual publication of reports based on data accumulated, necessitated the discontinuation of one department before the next was established. In order to benefit as much as possible by the experience of the workers engaged, it became a matter of policy to transfer the most competent and efficient workers to the new department so that sorting, for instance, was made up almost entirely of former key punch operators, and tally inspection and tabulating of former coders.

It has been a Social Survey policy to give every staff member full opportunity to demonstrate ability before making a release for inability or inefficiency. Problem personnel was shifted to other departments and employed on various types of work. Many demonstrated real ability under different supervision. Marginal workers of little ability soon gravitated to simple, routine jobs.

It is inevitable that among any large group of persons there are some of outstanding ability. Social Surveys administration has had considerable success in finding these persons and developing them. Many have been promoted to supervisory positions, so that 90% of the present supervisory and technical personnel is comprised of persons who rose from the ranks.

Since the organization is a temporary one, the personnel have been encouraged to find jobs in private industry. A large number have been fortunate. In Philadelphia a number of key punch operators, who had been trained by Social Surveys and received all their experience there were placed in private industry upon the application of employers to Social Surveys.

Labor turnover, due to the placements in industry of tabulating division workers in Philadelphia and Harrisburg, has been computed at 10% for

an average month.

Generally, compensation and wage scales are based upon the following considerations:(1) cost of living, or a rough determination of monetary requirements for real wages: (2) the relationships of the grades of work performed, based on the characteristics of various jobs; and (3) the supply of competent personnel,or the extent of the labor market. Occasionally,through the use of wage incentive plans, distinction is made in the price of individual jobs based on the number of units produced.

In census enumeration,it has been a practice to compensate enumerators on a per schedule or per line basis. However, the Administration of Social Surveys, believing that such a per unit system of wage payment encourages over enumeration,decided,in the interests of accuracy and easy supervision, to place all rates on a weekly basis. This was true not only of field jobs but of tabulating jobs as well.

Consideration of the cost of living factor would require differences in rates between the various counties. Living costs in large metropolitan areas, such as Pittsburgh and Philadelphia, naturally exceed those of rural sections. Social Surveys Administration decided, however, that these differences were somewhat compensated for by transportation requirements. No distinctions were made, therefore, for differences in locality.

Standard rates were set up for all jobs as follows:

| | |
|---|---|
| Assistant Area Supervisors | 40.00 |
| County Supervisors | 35.00 |
| Assistant County Supervisors | 30.00 |
| District Supervisors | 19.20 - 24.00 |
| Enumerators | 12.00 - 17.50 |

These were computed on the basis of a thirty hour week.

Traveling expense accounts require considerable handling and checking; with a large field personnel, this becomes an extensive job. To avoid this, Area Supervisors were paid $51.92 a week, without expenses. This was based

on a flat salary of $225.00 per month, or a weekly remuneration of $40.00 plus a weekly expense allowance of $11.92. In addition, the men were reimbursed for expenses incurred in making trips to Harrisburg for conferences.

Changes in programs - CWA to WD to WR, - required changes in hours of work for line personnel. Supervisory and technical personnel have always been engaged on the basis of a 38½ hour week.

During the course of the enumeration carried on in Philadelphia and Pittsburgh under severe winter conditions, a number of accidents occurred. For the most part, these were minor. The Civil Works Administration, having already set up compensation procedure, handled these cases.

The safety of the employees of the tabulating units received special consideration. First-aid facilities were available at all times. An analysis of their use and cost to the organization follows in a later section of this report.

## MANAGEMENT

The Administration of Social Surveys with its army of workers distributed throughout the entire State;with its 65 county offices and hundreds of district headquarters; with its large tabulating units in Harrisburg and Philadelphia and Pittsburgh, presented a real problem of management. This problem was further complicated by the fact that during the piriod of operation there were a number of changes in the general program which necessitated the following of new procedures and revisions in the bases of operation.

Without the whole-hearted cooperation of Civil Works Administrators, Work Division Directors, County Emergency Relief Board Executives, and Employment Bureau Supervisors, a number of the difficulties that had to be overcome would have proven insurmountable.

It has been pointed out that the field organization comprised 67 county units grouped into areas. Direct supervision of such a large number of units by any central administrative group is impossible. To the extent of the free delegation of responsibility of administration of these areas to the area supervisors, Social Surveys may be considered as having been a decentralized organization. The State Administrative organization, however, kept a very highly centralized control so that close check was kept on all operations.

In Staff meetings of Area Supervisors held prior to the commencement of field work, points of procedure and organization were exhaustively discussed. County procedure required, in brief:

Selection of personnel - through the State Employment office on requisition by the County CWA/WD Director.

Payroll preparation and Timekeeping - by the Local CWA/WD Comptroller.

Disbursement of Checks - by the CWA/WD Local Disbursing Officer.

Purchasing of Materials - by request to Social Surveys Purchasing Agent who with Social Surveys Administrative approval, requisitioned State CWA/WD Purchasing Division.

Selection of Quarters - free space, - by Area and County Supervisors with assistance of CWA/WD and SERB executives.

Publicity - by State CWA Director of Public Relations or Local CWA/WD Director.

The State Administrative Staff of Social Surveys, which comprised the Assistant Director and Administrative Assistant, and two clerks prepared careful budgets of payroll and personnel allotments for each county. These were given to the Area Supervisors and forwarded to the various County CWA/WD Directors and Comptrollers.

Financial control of the project was maintained in each county by the Local County Comptroller. State control was kept by Social Surveys Comptroller, based on weekly payroll and time analyses submitted by each County

Supervisor, so that the administrative Staff was able to check expenditures throughout the State.

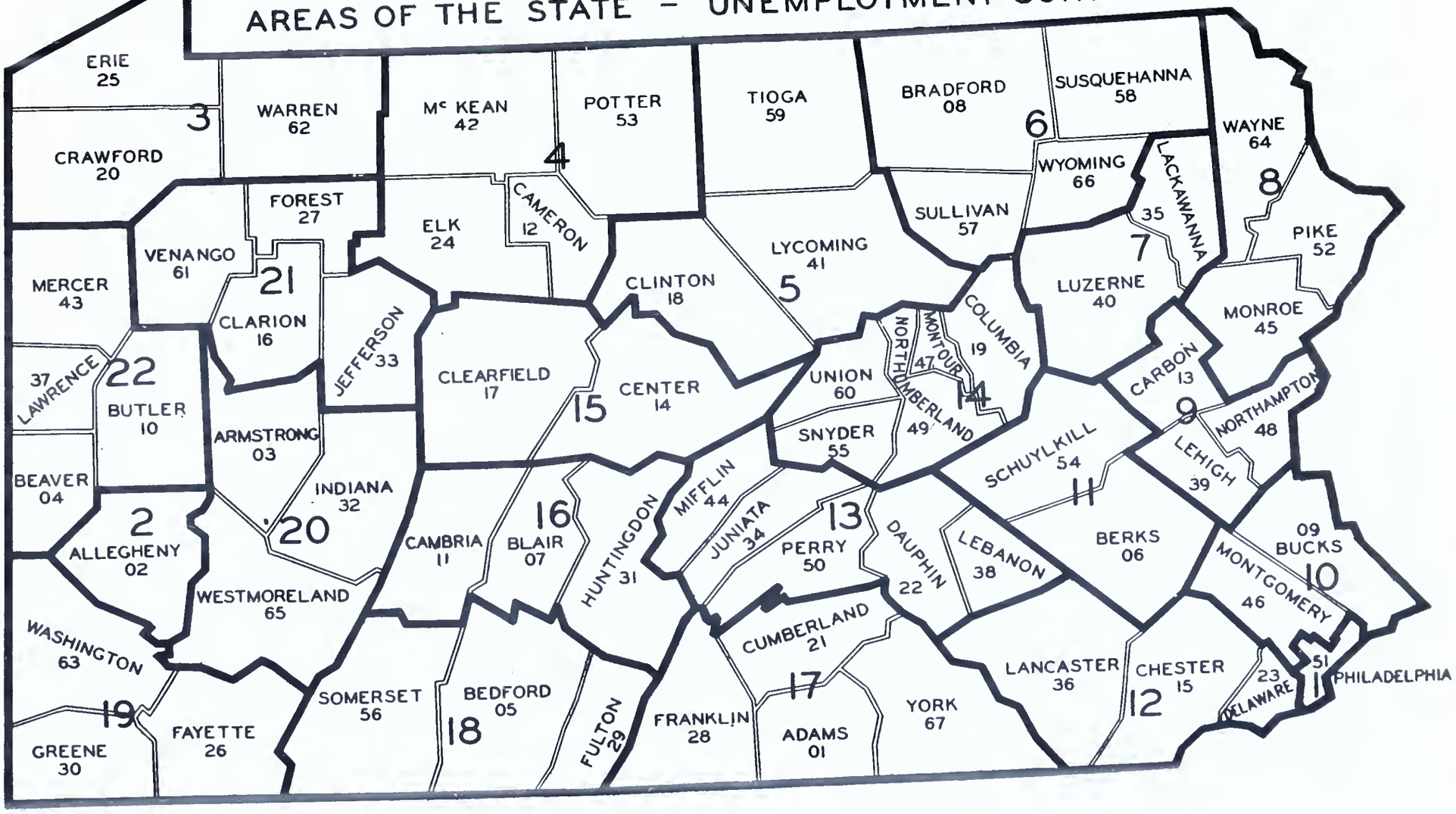
The progress of the work was reported each day by Area Supervisors who received reports from each County Supervisor and forwarded them to Harrisburg. These reports were posted on a chart which showed percentage completion by days for each county. The quantity and quality of production, was determined from these production reports and instance of slow or substandard work were investigated by the Administrative Assistant either by phone or personal visit. With such a close check it was inevitable that the administrative staff was as familiar with the work status as the County Supervisors.

Since it was desirable to keep material costs as low as possible, material requirements were carefully determined, purchases made in bulk, and material shipped to each county from Harrisburg.

The management problems of the Tabulating Divisions have been similar in character to those experienced by large industrial establishments, and have been treated in accordance with modern principles of industrial management. Although organization lines have been strictly maintained, it has always been our policy to lead rather than drive. Effort has been made to stimulate initiative all along the line, and particularly among the technically trained personnel, to guard against the restraint of the free development of ideas.

Frequent departmental and inter-departmental staff meetings have kept supervisory personnel informed of progress and development, and have been employed to solve problems of production and management. It has been customary to hold regular meetings of the Supervisors of each of the three units (Philadelphia, Pittsburgh, and Harrisburg) so as to coordinate the work and share in the experiences of each unit.

# AREAS OF THE STATE - UNEMPLOYMENT SURVEYS

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Occasionally, in order to solve unusual problems of technique, committees of line personnel are formed to study and analyze difficulties, and, present suggestions to the management. These committees have, on the whole, been eminently successful.

The management welcomed the suggestion of a group of line personnel that a workers committee be formed to present the point of view of the workers. This committee, composed of representatives of each department and shift, have discussed such problems as shift rotation, lunch hours, and facilities and working conditions resulting in happier staff relationships.

State laws governing hours of work and factory management have been observed at all times. Constant vigilance has been kept to guard against fire and industrial hazards. Plans for emptying the building in case of fire were worked out and fire drills held. It was found that one and a half minutes were required to empty the building of its 300 occupants.

The management maintained control of production through the use of a production control plan, and recently an extensive system of cost accountancy has been put into operation. A detailed discussion of these plans is included in later sections of this report.

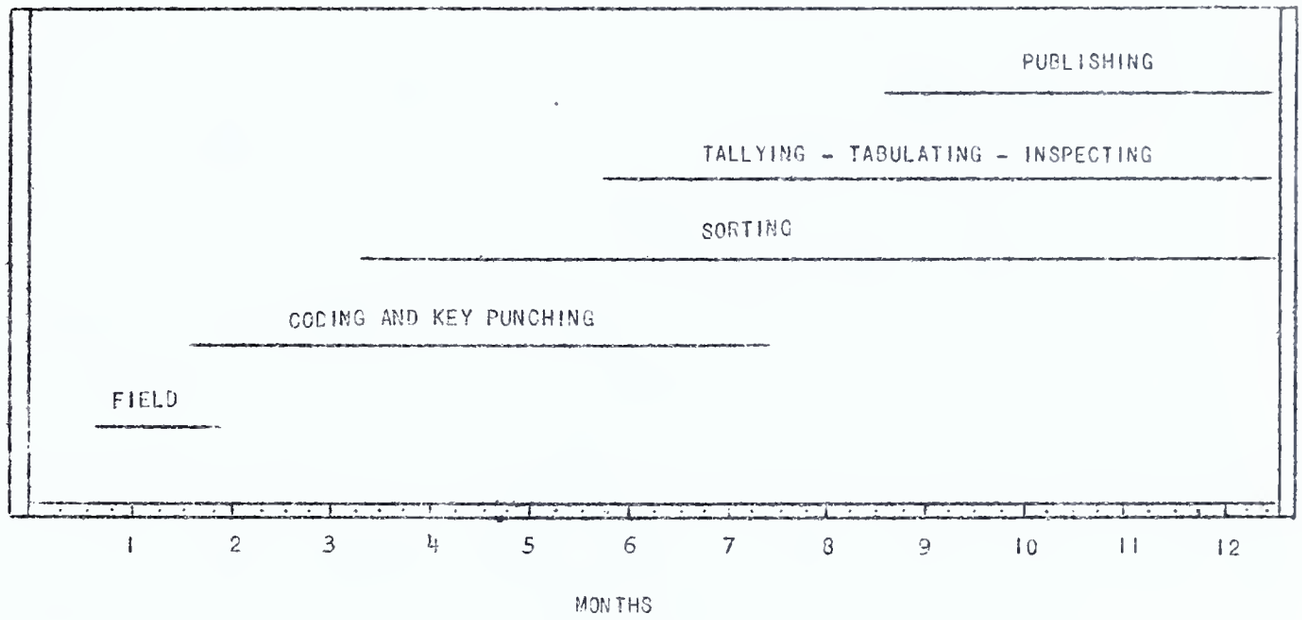
The morale maintained by the organization and its production accomplishments have been extremely high.

## SEQUENCE OF OPERATIONS

The tasks involved in a study of unemployment based upon a house to house survey resolve, in the final analysis, into four primary steps or stages of development: (1) the enumeration or gathering of the data, (2) the preparation of the data for tabulation, (3) the tabulation and analysis of the data, and (4) the publication of the results. The details involved

and the interdependence of these steps are presented in a later section of this report.

TIME SEQUENCE OF OPERATIONS




The mechanics on analyzing large groups of data for statistical purposes require the use of modern machine tabulation. The Hollerith System, which was used by Social Surveys, depends upon the translation of written schedule entries to numbers later to be represented by the position of holes punched in a card. A more direct method of tabulation with the use of a voting machine was developed by the organization and presents interesting possibilities. This development is later discussed at length.

The field data entered on the schedule or "questionnaire" is prepared for tabulating by first coding (assigning numbers to written entries) and then punching these coded entries on Hollerith cards. In coding more than 2,000,000 schedules collected by the survey of Unemployment 300,000,000 entries were made by the staff of "white collar" workers selected and trained in the Philadelphia and Harrisburg Tabulating Divisions.

Frequently, field investigations combine enumeration and coding either by using a self-coding schedule requiring only checked entries or by having individual or selected enumerators code the schedules.

The Administration of Social Surveys, believing that "self-coding" schedules are not sufficiently flexible to be suited to such a detailed inquiry as an Unemployment Survey requires, did not develop a self-coding schedule. Little consideration was given to the possibility of tying up coding with field enumeration because it was felt that this would mean the sacrifice of consistency of interpretation, uniformity, and accuracy.

A line production plan was worked out whereby cards were punched and inspected for each schedule. This necessitated punching 4,300,000 cards.

The next step in the work sequence required the sorting of these cards into various classes and sub-classes. Twenty sorting machines were operated by former "white collar" workers who never saw such machines before being trained by Social Surveys to perform this function.

Tallies, the end product of the sorting department, were checked and compiled, after which tables based on the data were derived by a tabulating and statistical department. Reports were then prepared and published.

# CHAPTER II

# GATHERING THE DATA

As was pointed out in the first chapter, decentralization of supervision was obtained by dividing the entire state into 22 areas, each under the direction of an area supervisor. An area contained from one to five counties, depending on size, population and accessibility.

The logical division of the work was by counties, therefore it seemed advisable for the area supervisors to set up an organization from the residents of the county, who would be familiar with the territory and its characteristics. The county organization was planned to include a county supervisor, assistant county supervisor, district supervisors, enumerators, draftsmen, timekeepers, stenographers and clerks.

The size of the county organization would depend upon the population of the county, its area and the accessibility to outlying districts from the survey headquarters in the county seat, and also the time allotted to complete the direct field work. It was decided that each district supervisor could effectively direct about 10 enumerators. The total number of enumerators for each county could be computed on the basis of an average of 20 calls per day in urban centers and about 10 calls per day in small towns and rural non-farm communities. Since the average family in Pennsylvania was known to contain slightly more than four persons, according to the 1930 census, the necessary force of enumerators to complete the work in 15 days could be readily calculated. The requirements for each city, borough or town were determined in the same manner. If the county population was large and included a city or several large boroughs, one or more assistant county supervisors were necessary to take charge of a single city or sections of the county. The assistant county supervisors directed the work of 6 or 7 district supervisors. If the total staff required in the county amounted to 150 or more persons a personnel supervisor was appointed.

An office staff at county headquarters consisting of timekeepers, record clerks, draftsmen, and stenographers, was added as the need arose,

with administrative approval.

Organization

The city of Philadelphia comprises the whole of the county with a population of approximately 1,900,000 persons. The entire area was enumerated even though it was known that the northeast section above Pennypack Creek is practically rural farm territory. Pittsburgh with the nearby cities and boroughs also embraces a very large population. Allegheny County contains approximately 1,400,000 persons and it was estimated that about 80% lived in the cities and incorporated boroughs. The enumeration covered the cities, boroughs and all unincorporated communities of an industrial or commercial nature. As previously pointed out, the organization in Philadelphia and Allegheny Counties was formed around the 22 area supervisors originally sent into the field. By this arrangement, the survey was started promptly since the details of instructions and direct supervision of district supervisors and enumerators was delegated to the section of regional appointees.

When the field work in Allegheny and Philadelphia Counties was completed, the plan was approved to conduct the survey in the rest of the state. The experience obtained by the area supervisors in acting as section supervisors in the two counties, permitted the speeding up of the organization. It was, however, decided that each area supervisor should have an assistant in each county, whose function would be to instruct the district supervisors and enumerators and supervise the checking of the schedules turned in. These assistant area supervisors were chosen by the area supervisor from his section or regional personnel in Philadelphia or Allegheny County. The county supervisor obtained locally was made responsible for county personnel and for the production of work. This arrangement proved very satisfactory and permitted the area supervisor more freedom in

coordinating the work between the Social Surveys, the Work Division Administrators and the Reemployment offices in each county under his supervision.

Development of Organization Plans

The organization plans were flexible enough to permit making adjustments to meet various county requirements. In some counties, a very compact, closely supervised organization developed under the direction of the area supervisor operating as planned by the State headquarters staff.

In other counties, the activities of the assistant area supervisor followed the original plan which consisted of instructing and advising the local county personnel in the technical details of the survey. In other counties, the assistant area supervisor directed the entire program with the county supervisor acting as his assistant. In these cases, the person with the most aggressiveness and ability took charge of the situation and while development was not always in exact accord with the original plans, the result was quite satisfactory.

In Adams County, an agriculture area with only one large borough, the area supervisor eliminated the position of assistant county supervisor but added another district supervisor in order to provide closer contact with the field work. In York County, two district supervisors were dispensed with, and an assistant county supervisor added to take charge of the survey in the city of York. The area supervisor in Clearfield and Centre Counties utilized assistant county supervisors but recommended that the position could be eliminated in rural counties, where industrial development is small and the population spread over a large territory. He also suggested that draftsmen should be utilized to plan the survey and make maps during the organization and training period, but that they could be dispensed with when the work is well under way.

The additional personnel that was authorized on April 2, due to the

reduction in working hours, was utilized only in a few of the smaller counties. The Employment Offices could not furnish the additional persons as rapidly as needed, so most of the area supervisors exerted every effort to increase production in order to complete the survey within the allotted time.

It has been recognized by the administrative staff that an organization for conducting surveys over such a large area must be made on broad lines, and that local conditions may require changes in the original plan in order that the task may be carried out efficiently and with the greatest possible speed.

Selection of Personnel

The area supervisors were selected with the assistance of the Personnel Division of the State Emergency Relief Board in Harrisburg, from a large number of prospects, after a careful consideration of their employment records. These records were submitted by the National Reemployment Offices and the Engineers Clubs of Philadelphia and Pittsburgh and other non fee charging agencies. The previous training of these area supervisors was as follows:

15 engineers

2 men of commercial training who had had experience directing fund raising campaigns

1 teacher in the social science field

3 sales managers

1 statistician with survey experience

All of these men were college graduates and ranged in age from 24 to 50 years.

Philadelphia County

The area supervisor for Philadelphia obtained from the Engineers Club,

the employment records of a number of men, ten of whom were chosen to form neuclus for the city organization. The area supervisors from the eastern part of the state were brought in and from this group the assistant supervisor and the twelve section supervisors were selected. Together this group, as a Survey Staff, spent one or two days discussing methods of operation and the division of the city into sections.

A requisition to the Employment Office called for 200 district supervisors, and the persons drawn were requested to report for interview at area headquarters. If these persons qualified and were accepted, they were notified to report for a general meeting on January 10. At this meeting these district supervisors were assigned to the twelve section supervisors, who in turn notified them when and where to report for further instruction. At this meeting preliminary instructions and a blank SS-1A schedule were given to each person, and this was read and explained. A written examination was also given and the answers discussed from the platform for the benefit of all. During the next three days, the section supervisors continued the instruction of the district supervisors, using them to assist in planning the section organization, prepare maps, obtain section and district quarters, auditorium space for class instruction, and to interview the enumerators and assign them to the district in which they lived. Temporary interviewing quarters were obtained in various public schools throughout the city to reduce travelling distances for the enumerating. About 2000 referrals from the Placement Agency were interviewed and assigned in three days.

On Sunday, January 14, meetings were held and the same instructions were given to the enumerators as had been given to the district supervisors. These enumerators were instructed to report to their assigned section headquarters the next day for additional and intensive training before they were sent out on the street for actual work.

Allegheny County

In Allegheny County, the unemployment census was conducted concurrently with the Real Property inventory conducted by the Civil Works Administration and the Bureau of Business Research of the University of Pittsburgh under the direction of T. A. Veenstra and E. N. Montagne assigned as special agents. The special agent acted in the same capacity as an area supervisor. The county was divided into regions and regional supervisors appointed, to whom reported the district supervisors and enumerators.

The regional supervisors were drawn from the personnel originally assigned as area supervisors in the western part of the state. One-hundred and thirty district supervisors were selected on January 10 from the referrals of the Employment Bureau. On January 18, fourteen hundred enumerators were selected from the applicants that reported at the Armory. The Next day these enumerators reported for preliminary instructions in Memorial Hall.

State-wide Survey

For the Survey throughout the state, the selection of the Assistant area supervisors, as already mentioned, was made by the area supervisor from his employees in Philadelphia or Allegheny County. These men had demonstrated their understanding of the work and their ability to direct other people. Analysis of their characteristics, qualifications, training, and previous occupations are included with the personnel classification of Philadelphia and Allegheny Counties.

Upon reaching their headquarters, the area supervisors immediately contacted the county administrator of the C.W.A. and the manager of the Re-employment Office. The Civil Works Administration in Harrisburg had already sent to the county administrator, authorization of the project with estimate of cost and a list of proposed personnel with the rates to be paid.

The area supervisor possessed copies of these papers so a brief conference with the county administrator resulted in a requisition for the personnel required, giving date, time and place to which these persons were to report for interview. The Placement Agency arranged for immediate interviews with suitable persons for supervisory positions. The selection of the county supervisor and assistant county supervisor rested entirely with the area supervisor, but in nearly every instance the suitability of the applicants and their past record of employment was discussed with the county administrator and the manager of the Placement Agency before a decision was made.

As soon as the county and assistant county supervisors had been selected, they were given a brief but intensive schooling in the purposes and procedure of Social Surveys. When this was completed, the county supervisor and his assistants were then delegated to the task of the selection of district supervisors and enumerators and also to the securing of suitable county headquarters. The area supervisor then proceeded to the next county in his area and followed the same plan. In most cases, the preliminary organization work was accomplished in less than one day for each county. The assigned assistant area supervisors remained with the county supervisors to aid in whatever manner was needed to start the organization plans.

A few days intensive training of the district supervisors served to acquaint them with the purpose of the project and a general idea of the plan to be followed. The Placement Agency had been advised the number of enumerators needed for each district in the county. This permitted the employment agency to balance the referrals with the number needed, allowing for those who could not qualify. These persons were interviewed at the county headquarters by the assistant county and district supervisors. Each applicant was told the purpose of the survey, the method of obtaining the information from house to house, and the information that must be obtained to

fill in the schedule. If the applicants were interested they were requested to fill in a schedule for their own household. If the writing was not legible or the simple phrases of the schedule had not been interpreted correctly, the interview usually ended by the applicant admitting he or she could not qualify.

A few persons were referred to the Social Surveys that were not up to qualifications, but this usually occurred because the reemployment office had exhausted their files of clerical workers. This was remedied when the Administrator for the C.W.A. - W.D. issued publicity to the local newspapers stating that an unemployment census would be taken and that "white collar" workers would be employed. This resulted in an increased registration so that later referrals were found to be of a higher type.

The county organizations for the most part proved very satisfactory. Every area supervisor reported excellent cooperation on the part of his employees. Generally speaking, these employees were intelligent, professional and clerical workers who had been out of work for sometime and had nearly exhausted their reserves. Grateful for the opportunity to work rather than accept charitable aid, they applied themselves to their temporary tasks with enthusiasm and interest.

The county personnel consisted of approximately 15,000 persons furnished, as already mentioned, by the Reemployment offices throughout the state on qualification ratings sent out from headquarters in Harrisburg. It is interesting to note the distribution of these persons according to their normal occupations, as shown in the following table.

Normal Occupation
of
Personnel on Unemployment Census

| | Total | Percent Male | Percent Female |
|---|---|---|---|
| Mechanical & Hand Trades (Skilled) | 7.9 | 7.2 | 0.7 |
| Mechanical & Hand Trades (Unskilled) | 1.8 | 1.6 | 0.2 |
| Office and Clerical Workers | 40.0 | 18.3 | 21.7 |
| Transportation and Trade | 12.5 | 11.7 | 0.8 |
| Domestic and Personal Service | 1.2 | 0.4 | 0.8 |
| Executive and Professional | 27.9 | 17.2 | 10.7 |
| Public Service Occupations | 0.4 | 0.3 | 0.1 |
| Unspecified Occupations | 8.3 | 4.9 | 3.4 |
| Total, | 100.0 | 61.6 | 38.4 |

The tabulation of personnel statistics is shown in greater detail in another section of the report.

Training of Personnel

At the beginning of the survey in Philadelphia, school authorities were consulted in regard to the best method of training. Some of the points discussed involved the size of instruction groups that would provide uniform results. They recommended training in large groups. However, experience seems to indicate that although the large class method may be correct theoretically, it does not produce as good results as small training classes when applied to this type of instruction. In a large group there is more confusion and distraction and the instructor cannot hold everybody's attention. In large auditoriums, persons in the rear do not always here all that the instructor says. As the work progressed all instruction was given in small groups of not more than 30 to 35 persons. The instruction and training was conducted by one of the supervisory personnel who possessed ability as an instructor.

When each group had received one day's instruction, they were given a written examination based on a typical case of enumeration. The answers to

the test schedules were exchanged among members of the class and the schedules were rated for correctness. The errors were discussed in the class and difficulties were cleared up, but the rating obtained by each enumerator was recorded.

In some cases, where a blackboard was available as in the schools and the Y.M.C.A., a schedule was drawn on the blackboard for use in discussion of the various group entires. In smaller communities, some of the district supervisors listed the various industrial plants with the product they made and decided on the proper "industry" classification bearing in mind that some departments of a corporation might be classified in different industries. On completion of the training period, usually 2 or 2½ days, the enumerator was sent out for half a day to "enumerate" 4 or 5 households. These "trial" schedules were then inspected by the district supervisor and if satisfactory the enumerator was ready to start in the field. If there were a large number of errors, the enumerator was given additional training.

As the work progressed, district, section and county meetings were held with the enumerators and supervisory personnel to discuss the progress and methods used in the survey, so that everyone might benefit by improved methods that might be discovered.

County, Section, And District Headquarters

Wherever possible, the supervisory personnel were assigned to localities with which they were familiar. This proved to be an asset in obtaining office space, furniture and other concessions. Sometimes considerable ingenuity was necessary to secure office space and furniture needed for section and district quarters since no rent could be paid. However, a reasonable charge was allowed to cover light, heat and service. Quarters were secured in office buildings, clubs, Y.M.C.A.'S, Schools, Churches, private

homes and apartment houses. It is interesting to note that several bank managers, while expressing themselves favorable to any project giving people work, declined to give office space in any part of their building, fearing that a crowd of people flocking to the building might appear to the public as a run on the bank. Even the district supervisor had to have a definite office or quarters where he could be reached by telephone. In Allegheny County, the regional offices were furnished by the municipalities and the county and section quarters were often obtained in the same manner throughout the state.

Territory maps

One of the most important items necessary to conduct an unemployment census is accurate and detailed maps of the territory to be covered. Each county, section, district and enumerator territory must be clearly defined to prevent overlapping of work or omissions of residences. Included in the supplies sent from Harrisburg were county maps published by the Department of Highways. Since the enumeration was to include only urban and non-farm communities, the administrative staff in Harrisburg marked and sent out one set of these maps with red pencil to show the places that were to be enumerated. A list of these cities, boroughs and towns, with 1930 population listed, was also made up for each county and sent to the area supervisor. However, the maps of the Highway Department did not show the details of city and borough streets. One of the earliest tasks assigned to the district supervisors was to obtain maps of every borough or town in his district. Usually, the city or borough engineer could supply blueprints of the map of their respective territory. Sometimes the maps were donated, in other instances they were loaned long enough to make a tracing. Where no maps could be obtained, the supervisors traveled over the town and made a rough pencil diagram which was made up into a drawing.

In Philadelphia, several sets of large blueprint maps were obtained from the city engineer's office, and also data on the number of houses in the city by wards. The Chamber of Commerce, in cooperation with the Bell Telephone Company, had made a map of the city showing the divisions used by the Federal Census, and also the 1930 population for each census tract. Three dozen copies of the census tract maps were purchased and used to advantage.

The Curtis Publishing Company furnished the Social Surveys with a copy of their Market Data book, containing statistics on population, number of families, number of residences, households, persons per family, for each section of the city based on the 1930 census. The voter's lists by wards and districts were also secured but did not prove very valuable.

In Allegheny County, the city of Pittsburgh furnished to the Social Surveys maps of the county and data to assist in carrying on the project. The same excellent cooperation was manifested throughout the entire state, when the civic authorities learned that the project would give employment to a large number of "white collar" workers.

Districting and Preparation of Enumerator Maps

The county supervisor arranged to have the quota of draftsmen report for duty as promptly as possible after the county headquarters were obtained. The county supervisor, assistant area supervisor and the draftsmen conferred as to the proper division of the county into sections, districts and enumerator territory on the basis of population and accessibility.

The district and enumerator maps were made on tracing paper, or if several blueprints were at hand, one set was cut up into the various districts and territories. Some difficulty was experienced when it was found that a few of the maps were out of date. Based on a close field check by district supervisors up-to-date maps were drawn when the survey was com-

CIVIL WORKS ADMINISTRATION FOR PENNSYLVANIA

HARRISBURG, PENNSYLVANIA

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# ENUMERATOR OATH

*Dist. No.* . . . . . *Date* . . . . . .

I, as enumerator, do solemnly declare that I will not repeat nor divulge any confidential information obtained in the course of soliciting for this Unemployment Survey.

. . . . . .
*Enumerator.*

. . . . . .
*District Supervisor.*

pleted. The city and borough officials were pleased to receive correct prints of their own community. The district supervisors were instructed to record the changes found in the field and as the work progressed new maps were turned over to the city and borough officials.

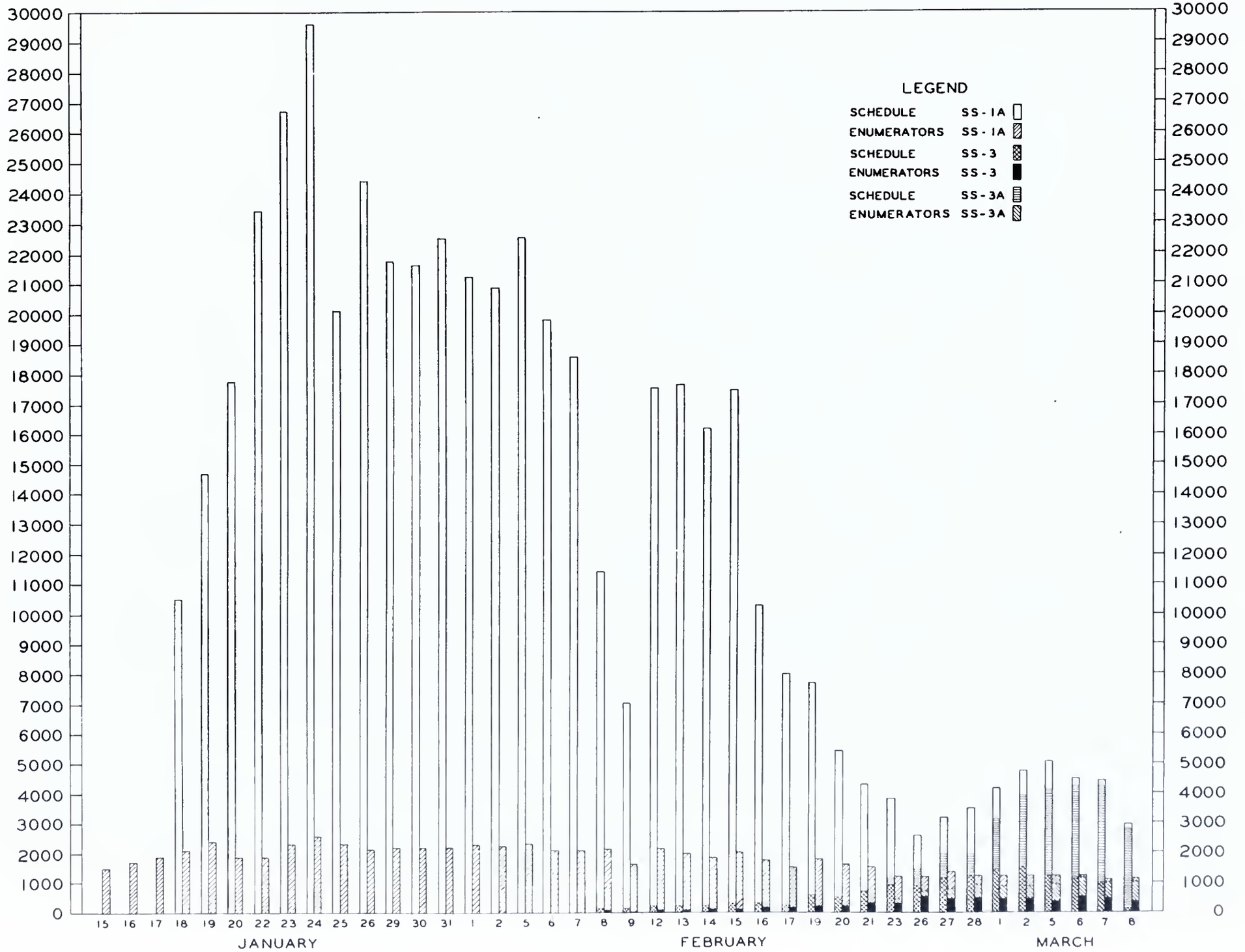
The Technique of Enumeration

During the training period, the enumerator was made familiar with every detail of the schedule and the kind of answers that would be received in the course of enumeration. But to secure any information for the schedule, took for granted the enumerator had convinced the householder that the required information should be furnished. In case the householder refused to be interviewed, the call would be futile. To help in gaining admission and also to prevent impersonation, each enumerator was given an identification card. In addition each enumerator was required to sign an oath that any information obtained in the course of the survey would not be repeated or divulged. Publicity was given to this feature in order to convince the public that the work had no ulterior motives. A copy of the oath form is shown on the opposite page.

The majority of enumerators were not experienced in making house-to-house contacts. Instructions were drawn up covering this phase of the problem which proved very helpful. Much stress was placed on courtesy and tactfulness in dealing with the person interviewed. Coercion or intimidation in the case of a refusal was entirely ruled out. If an enumerator was refused 3 or 4 times at one household, another enumerator or supervisor was sent in order to obtain the data for the schedule.

Frequently, the area supervisors discussed with their staff the proper methods to be used when asking the necessary questions in order to avoid suggesting a reply that might be inaccurate.The psychology of referring

# DAILY PROGRESS REPORT SHOWING NUMBER OF ENUMERATORS AND PRODUCTION SCHEDULES SS-1A, SS-3, SS-3A. PHILADELPHIA COUNTY



to related events of history, however, frequently helped the interviewee to remember dates of employment and discharge, as well as past occupation and industry.

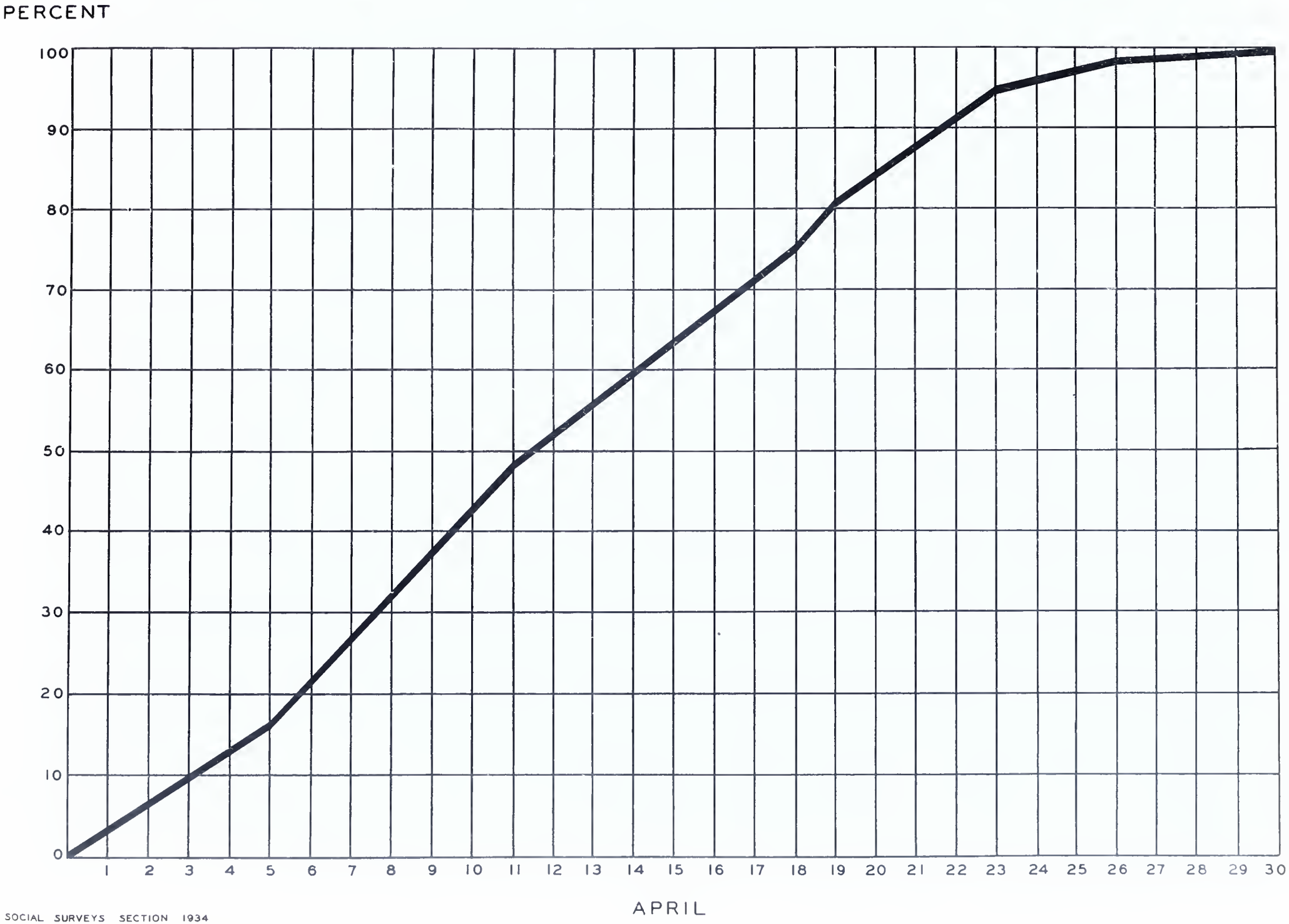
Emphasis was laid on the order of asking questions. It was suggested that questions regarding wages be left until the end of the interview. To reduce the time required for each call, the enumerator was instructed not to fill in section II and III of the schedule - the summary groups. That work was done by the headquarters Checking Staff. To assist in obtaining proper family relationships, the enumerator filled in the given names of each member of the family at the lefthand edge of the schedule. During the interview, this proved of great help in requesting the definite data required for that person. In the urban centers, the district supervisors were instructed to visit each enumerator every day during enumeration, to make certain the enumerator was working and that every house on the street and back alleys of the block were visited. Each block was circled and completed before proceeding to the next block.

Every morning, the enumerators met with the district supervisor in the district quarters to turn in the schedules completed for the previous day, and report on the amount of work done. Special problems were discussed, new bulletins from headquarters were passed out and the supervisor made any necessary changes in assignments.

Occasionally, the allocation of the territory was not balanced, due to population shifts, new homes, or vacant properties. Some enumerators did not make as rapid progress as others, which made necessary changes in territory assignments. The district supervisor was required to know where each enumerator was working and to keep the district map marked to show the completed blocks.

Schedules in error were returned to the enumerator for correction. In

# DAILY PROGRESS REPORT OF ENUMERATION-SCHEDULE SS-1B

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case no one was found at home, the enumerator was instructed to make back calls. If several back calls still found no one at home, inquiry was made at the neighbors to learn the household habits so that a back call could be made when the occupants were at home. If the absence was expected to extend for several weeks, all possible information was obtained from the neighbors and the schedules so marked and turned in.

Refusals were not accepted as final until the best enumerators and finally the supervisory staff had called to interview the householder. The percentage of absolute refusals was very low.

## CHECKING METHODS

### Spot checking

When the enumeration of a district was well under way, spot checkers were sent out by the supervisor. These checkers were given a completed book of schedules. In Philadelphia and Allegheny Counties, the SS-IA books contained 50 schedules, but the SS-IB schedule books contained only 25 schedules. The spot-checker selected one schedule from each book, visited the address covered by that schedule, and re-enumerated the household. A tactful enumerator was sent with instructions to explain that he was checking the accuracy of the work because of the importance of the survey. If the spotchecker found that the enumeration was faulty, the households covered by the other schedules in that book were re-enumerated. If errors were found in other schedule books of the original enumerator, further training would be given or the enumerator released. If it was found that the first enumeration was complete and accurate, and if the continuity of addresses indicated that no houses had been missed, the book was turned in for checking.

### District office checking

The district supervisor was instructed to go over every book of sched-

ules turned in by the enumerators and check for apparent errors and lack of complete information on each schedule. In the crowded urban districts, the supervisor was permitted to utilize the services of one enumerator as a checker to expedite the work. Frequently, another enumerator devoted part time to assist in making up district reports of work done. The blocks shown on the district supervisor's map were checked off as fast as the enumeration was completed. The district supervisor was required to keep a record of all blank schedule books handed out and those turned in, for each census tract.

As a final check, the district supervisor made calls at random in completed blocks to make certain no households had been overlooked.

Headquarters Checking

In Philadelphia and Allegheny Counties, when the checking by the district offices was completed, the books were passed on to the section or regional headquarters for final checking. In the rest of the state, the headquarters checking staff was located in the county office of the survey. The headquarters checking staff consisted of a checking supervisor and the best enumerators who had completed their assignments. The section and regional supervisors were able to render final decision on doubtful questions as to the information furnished. In the rest of the state, the assistant area supervisors performed this duty of coordinator. In some instances, the area supervisor acted as the checking supervisor. If the number of books to be checked by the headquarters staff amounted to more than 500, the work was divided up into groups, each of which was assigned to check a section of the schedule. Checking of occupation and industry was usually assigned to the most competent members of the checking staff. Every item on the schedule was checked or edited. Instructions were issued that no changes of a major character were to be made on any schedule without taking the

matter up with the district supervisor. If serious errors or omissions were found, the book was returned to the district office and the enumerator for correction.

The summary items, Groups II and III on the schedule, for members of the family and the employables were filled in by the checker after all the other items on the schedule had been edited.

The last step in checking was the assignment of book numbers for each census tract or civil subdivision, together with a record of the number of schedules and population enumerated in each book. This last data was the basis for the Shipping Information.

In Allegheny County, the checking of the RPI Schedules required about 120 persons in groups of three or four, with a coordinator specially trained in that portion of the schedule. A hand tabulation was made of some of the data which later was found to agree closely with the machine tabulation.

Shipping

The headquarters checking staff turned over the completed books with the schedule and population tally inside the front cover of the book. One or more enumerators acted as shipping clerks, and checked the tallies against the books, made up a shipping list, and packed the books in pasteboard cartons. These cartons were shipped by express collect to the coding and Tabulating Divisions in Harrisburg or Philadelphia. Transmittal lists, made up by districts, accompanied each shipment and a separate copy was sent through the mail.

Field Reports

Mimeographed forms were provided for daily reports. The district supervisors were required to make a written report daily to the section, regional or assistant county supervisors. These supervisors in turn sent in a report to the county supervisor. This report listed the number of com-

pleted schedules for each enumerator for the previous day and also the number of back calls made. It also included the number of man hours spent in field work and an estimate of the percentage of completion for the district.

The county, section, regional or assistant county supervisors submitted daily reports to the area supervisor based on the reports turned in to them. This report was not tabulated by enumerator name, but by districts. The area supervisors in turn submitted daily reports to the administrative headquarters in Harrisburg, showing the status of work in each county.

To keep close control of the field work, the assistant director required the reports to be in Harrisburg not later than the morning of the second day after the day covered by the report. In the outlying districts where mail deliveries were not satisfactory, it was necessary to telephone district reports so that county and area reports could reach their destination according to schedule. Each district supervisor was instructed to compile the report for the previous day's work each morning, as soon as the enumerators were assigned to the field. Telephone reports were supplemented by written copies sent by mail. The area supervisors' reports gave cumulative totals for each county.

In Harrisburg, the area reports were charted by counties so that percentage of completion for each county could be readily compared with that of other counties. If production dropped behind in any county, investigation could be made and necessary change of personnel or other direct action could be taken so that the work would be finished according to schedule.

Progress of enumeration

In Philadelphia, enumeration began on January 18, and was completed by February 23. However, on February 8, the enumeration of the intensive schedule SS-3 and SS-3A was started and ran concurrently with the SS-A, and was completed on March 8. The Real Property Survey was initiated on March

19 and continued until April 30. A central portion of the city was to have been covered by the City Planning Commission, but on June 25 the Social Surveys took over the work and completed it on August 9. The checking of schedules by the Section Headquarters extended approximately a week after the SS-1A enumeration was completed.

In Allegheny County, the enumeration for the Unemployment Census and the Real Property Inventory was conducted concurrently from the very beginning. For this reason the instruction and training of the district supervisors required three days, January 16 to 18 inclusive, and the instruction and training of the enumerators from January 19 to January 22. The following day the enumerators in three regions were making calls and each day thereafter three additional regions started out until all assignments were completed. By March 1, when this survey was completed, the RPI intensive survey was undertaken, utilizing the best supervisors and enumerators of each region.

The checking of the RPI schedules was begun about 10 days after the enumeration was well under way, utilizing some of the most proficient enumerators and supervisors. Since these schedules contained a large amount of detail, the checking staff did not complete this work until the end of March.

The statewide survey was authorized March 12. A conference of area supervisors was held in Harrisburg the next day and the program outlined. The area supervisors and their assistants reached field headquarters on March 19 and proceeded to organize the county for the survey. By March 30 the field organization was completed, district supervisors and enumerators trained and ready to begin enumeration. On March 30 at a conference of area supervisors in Harrisburg plans were revised because the CWA organization was to be discontinued on March 31 and the Works Division of the

State Emergency Relief Board planned to take over all projects that could be authorized under new rulings from Washington. The Unemployment Census was approved, but the working hours of the field force was cut from 30 to 24. This change delayed the date of beginning until April 3.

In most counties four six hour days were utilized, the enumerators working from Monday to Thursday, inclusive, and the checking group from Tuesday to Friday inclusive. This permitted the checking division to keep in step with the field work. The county supervisory personnel and the area supervisors worked on the basis of 38½ hours. The work of the enumerators was completed on April 26, except in one or two counties where delays had occurred in obtaining personnel. In every instance no enumeration for the SS-1B Schedule was taken after April 30. In a few counties where SS-3 schedules were taken, some delay was encountered those industrial sections having a large foreign speaking population.

The checking of schedules was completed in the majority of counties by May 10. From May 10 to May 17 the supervisory personnel compiled a report for the area supervisor covering their territory, providing statistics as to calls, schedules, man days and work done in urban and rural districts.

The area supervisors wrote a report covering the work done in their area by counties based on the statistics furnished by the county supervisors. The cost of the field work was made a part of the area supervisors' report and this was broken down to show the difference in costs between urban and rural territory, male and female enumerators and enumerators with car and on foot. A differential map on the opposite page shows the range of cost for each county.

On May 24, all field work on the Unemployment Census was brought to a conclusion and the area supervisors released, absorbed in the Tabulating Division or employed on special work for Social Surveys.

The weather conditions in Philadelphia and Allegheny County during the period of the survey must be mentioned in the report since it had a direct bearing in the production and costs of the enumeration. The following is quoted from the area supervisor's report.

"During January the weather was about normal, but during February and up to March 8 the temperature was decidedly cold. During February the average temperatures in Philadelphia were 11.7 degrees below normal and only during three days of the month was the average mean temperature above freezing. During nine days of the month, the average mean temperature was less than 16 degrees with the highest temperature 47 degrees and the lowest 11 degrees below zero. There was 18.1 inches of snowfall during the month instead of a normal snowfall of 7 inches. The result was snow on the ground during the entire month. The first eight days in March the temperature was 3 degrees below normal with snow on the ground most of the time. The severe weather conditions naturally had a great effect on the efficiency of the enumerators, as it was extremely trying to attempt to secure information from house to house, especially where the information could only be obtained on the door step."

Similar conditions prevailed in Allegheny County where they experienced one of the coldest months in the history of the county, according to the report of the General Supervisor. "The temperatures ranged from zero to 40 degrees below for several days, and the condition, together with deep snow in the outlying districts of the county made progress much slower than it should be in a normal year.

Additional functions of field organization

The field force was organized to conduct the unemployment census and this survey was the primary duty of the staff. However, when the organization was set up it could be used to collect any other type of information de-

sired. Employment history of workers, Real Property Inventory, Employment, business and economic conditions in one industry and company towns, abandoned towns and blighted areas, are all of importance for social studies and have an important bearing on government policies, legislation, taxation and the economic life of the state.

During the progress of the Unemployment Census additional surveys were released by the administration in Harrisburg. The details of these surveys follow.

The intensive unemployment survey (SS-3)

When making a study of unemployment, it is not sufficient to know the number of persons unemployed at a specified time; but it is necessary to know the frequency and the duration of periods of employment and unemployment. Of particular interest are the changes in occupation of gainful workers, changes of wage rates among older gainful workers as compared with younger gainful workers. This information is necessary to determine the need for the cost of the benefits, premiums to be charged for various types of insurance, old age pensions and associated problems of social security.

To undertake an intensive survey of this type throughout the United States would be a tremendous and costly undertaking and unnecessary.

A careful consideration was given a number of cities and towns and certain ones were selected that would include some of all the important industries of the state. This selection was made to include the cities and towns that were mainly dependent on one industry.

It was decided that this intensive study should be made of the employment history of the employable members of 4% of the households in these selected cities.

Sampling method

Two different methods were used in Philadelphia to obtain the ad-

dresses of the household to be covered by this intensive survey. A two per cent sample was secured by revisiting the household covered by the twenty-fifth page of each book of the Unemployment Survey schedules. In Philadelphia and Allegheny Counties, the SS-IA schedules were bound in books of 50. The other method, which resulted in a sample slightly more than 2 per cent consisted of revisiting the fifth house in each city block, counting from the northwest corner in a clock-wise direction.

While the second method resulted in more calls, when location of these samples were plotted on a map, there was little or no difference in the geographic distribution. Each sample designated the location of a household where a call was to be made, but the household might contain more than one employable. The ratio of SS-3 schedules to SS-1A schedules was about 4 per cent, whereas the ratio of SS-3A schedules to SS-IA schedules was nearly 5 per cent.

In Allegheny County, the sample for the SS-3 intensive survey was based on the twenty-fifth sheet and the ratio of schedules in comparison to the SS-IA was almost three per cent.

In crowded sections of the city, with small row houses, or large apartment house districts, the first method of sampling will produce more schedules. In the outlying sections where residences are spread out the second method will produce more schedules. In the crowded sections there might be 100 families in one block, resulting in 2 samples for SS-3. For outlying sections, there might be only 5 houses in one block, and this would provide one SS-3A sample, but at least 5 such blocks would be necessary to produce one SS-3 sample.

From the experience gained in Philadelphia and Allegheny Counties, the SS-3 Surveys in the remainder of the State were based on the households on the twelfth page of the Unemployment Census Schedule Books. The SS-IB

Schedule books, which superceded the SS-1A form and which were used in all counties except Philadelphia and Allegheny Counties, were bound in books of 25 schedules. This method resulted in a sample of about 4 per cent of those households covered by the Unemployment Survey in the selected communities.

Conducting the Survey

In Philadelphia, the SS-3 and SS-3A Surveys started February 8 when the SS-1A Unemployment Census was 60% completed. The two surveys were conducted together until completed on March 8. The more proficient enumerators and the enumerators who had completed their assignments on the unemployment census, were given instructions on the intensive schedule in the section headquarters. Since the employment history could only be given by the worker himself practically all calls had to be made at night and usually by appointment. Two or three calls per day represented the usual production for each enumerator on this survey. Generally speaking the information obtained was very satisfactory and complete. Sometimes the employable would refuse to give wages, but even this objection could be overcome by using only courteous and tactful enumerators.

In Allegheny County, the SS-3 Survey was conducted along with the Unemployment Census during February and March.

The selected communities over the rest of the state were enumerated for the intensive SS-3 Survey at the same time that the Unemployment Census was conducted.

Report on Company Towns and One Industry Towns

During the Unemployment Census, each area supervisor was instructed to investigate and report on company towns, one industry towns, str nded communities, blighted areas, etc. for each county under his direction. It was desired to obtain an accurate list of such communities to serve as a basis

for future surveys. The supervisory personnel usually was familiar with industrial and business conditions of all the large communities of the county. Some of the reports turned in gave complete industrial history of these towns and of the economic and social problems encountered, the estimates of unemployed and the number of persons on relief. In the case of abandoned towns or blighted areas, the report included suggestions as to rehabilitation and work relief projects that would give employment to the remaining inhabitants. The information gathered and presented could almost be considered as a complete survey.

Survey for Philadelphia City Planning Commission

When plans were first initiated for the Unemployment Census in Philadelphia, a conference was held with members of the City Planning Commission and the Research Department of the University of Pennsylvania. The City Planning Commission had planned to conduct a house to house survey to obtain statistics necessary to continue the work of their commission. Some of the data required for on their schedule was already included on the SS-IA form. However, it did provide for some additional data covering the wages of workers, whether an automobile was owned, means of transportation to work and the time required, also the nationality or race of the head of the household.

This Survey, known as the SS-IA Supplement, was conducted concurrently with the SS-IA Unemployment Survey. The information was obtained from the householder and entered on a separate sheet furnished by the City Planning Commission. When the enumerator had obtained all the data needed for the Unemployment Census, it was only necessary to ask the four questions listed above, and enter the answers on the SS-IA supplement sheet. The balance of the information required for the City Planning Commission could be copied from the SS-IA schedule. To obtain this additional information only

# CITY PLANNING COMMISSION

PHILADELPHIA PENNSYLVANIA

## C W A SOCIAL SURVEY - SS-4

MARCH 1 - MAY 1 1934

| STREET | DATE OF SURVEY | SCHEDULE NO |
|---|---|---|
| PROPERTY NO | ENUMERATOR | BLOCK NO |
| COURT OR REAR NO | CHECKED BY | CENSUS TRACT NO |
| IF MORE THAN ONE SHEET-THIS IS SHEET NO. OF SHEETS | | |

## A. OCCUPANCY OF PROPERTY

| A1 TYPE | | A6 RESIDENTIAL | | PRESENT USE | CONVERT FROM | A7 PUBLIC | | A8 SEMI PUBLIC | | A11 OPEN LOT | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| ROW HOUSE | 1 | ONE FAMILY DW'LG | 01 | | | CITY OWNED | | CHURCH | | PARKING | |
| SEMI-DETACHED | 2 | LODGING HOUSE | 02 | | | SCHOOL | 1 | PRIV. SCHOOL | 2 | JUNK | 2 |
| DETACHED | 3 | ROOMING HOUSE | 03 | | | FIRE HOUSE | 2 | HOSPITAL | 3 | STORAGE | 3 |
| A2 ENTRANCE | | STORE & DWELLING | 04 | | | POLICE STA | 3 | THEATRE | 4 | RECREATION | 4 |
| MAJOR STREET | 1 | OFFICE & DWELLING | 05 | | | RECREATIONAL | 4 | ASSBLY HALL | 5 | OTHER | 5 |
| MINOR STREET | 2 | 2 FAMILY DWLG | 06 | | | OTHER | 5 | PUB. GARAGE | 6 | | |
| ALLEY | 3 | 3 FAMILY DWLG | 07 | | | STATE USE | 6 | CEMETERY | 7 | | |
| COURT | 4 | 3 FAM. MULT. DWLG. | 08 | | | FEDERAL USE | | RESTAURANT | 8 | NO USE | 9 |
| TUNNEL | 5 | 4 | 09 | | | POST OFFICE | 7 | TAP ROOM | | PREVIOUSLY | YES |
| DEAD END ST. | 6 | 5 | 10 | | | OTHER FED. | 9 | STABLE | 9 | BUILT UPON | NO |
| A3 YEAR BUILT | | 6 | 11 | | | | | | | | |
| A4 ELEVATORS NO | | 7 | 12 | | | A9 COMMERCIAL | | A10 INDUSTRIAL | | A12 GARAGE PRIV. | |
| A5 CONDITION | | 8 | 13 | | | RETAIL | 1 | FACTORY | 1 | IN HOUSE | 1 |
| GOOD | 1 | OVER 8 | 14 | | | | | | | ATTACHED | 2 |
| MINOR REPAIRS | 2 | HOTEL OR CLUB | 15 | | | WHOLE SALE | 2 | SL. HOUSE | 2 | SEPERATE | 3 |
| STRUCT. REPAIRS | 3 | OTHER | 19 | | | | | ANIMAL | | NONE | 4 |
| UNFIT FOR USE | 4 | | | | | GAS. SERV. STA | 3 | POULTRY | | CAR CAPACITY | |

## B. BUILDING DATA

### B1 YARD DATA

| | | YES | NO | WIDTH | DEPTH |
|---|---|---|---|---|---|
| FRONT YARD | 1 | | | | |
| SIDE YARD | | | | | |
| SIDE CT. OR AREA | 2 | | | | |
| LIGHT WELL | | | | | |
| | | | | | |
| REAR YARD | 3 | | | | |
| HYDRANT | | | | OFFICE NOTE | |
| W.C. IN YARD | | | | | |
| P.V. IN YARD | | | | | |
| SHED IN YARD | | | | | |

| OFFICE DATA (DO NOT FILL IN) | |
|---|---|
| PROPERTY AREA | |
| BUILDING AREA | |
| OPEN SPACE AREA | |
| PERCENTAGE COVERAGE | |

### B2 PROPERTY NUISANCE

| | | |
|---|---|---|
| NONE | 1 | |
| FLOODED CELLAR | 2 | |
| OBSTRUCTED PLUMBING | 3 | |
| SURFACE DRAINAGE | 4 | |
| RUBBISH STORED IN CELLAR | 5 | |
| RUBBISH STORED IN YARD | 6 | |
| UNSAFE FLOOR WALLS OR PLASTERING BAD | 7 | |
| ANIMALS OTHER THAN DOMESTIC | 8 | |
| OTHER | 9 | |

### B3 WALL MATERIAL

| | | FRONT | SIDE |
|---|---|---|---|
| WOOD OR FRAME | 1 | | |
| BRICK MORE THAN HALF | 2 | | |
| STONE | | | |
| CONCRETE OR CON. BLOCK | 4 | | |
| HOLLOW TILE | 5 | | |
| STUCCO SURFACE | 6 | | |
| METAL SURFACE | 7 | | |
| | | | |
| OTHER | 9 | | |
| | | | |

### B4 ROOM AND SANITARY DATA

| | | NUMBER LIV RMS | NUMBER BATH RMS | NUMBER W.C.'S | BATH TUBS SEP SHWS | SINK LOCATION HALL | KITCH | OTHER |
|---|---|---|---|---|---|---|---|---|
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| ATTIC | | | | | | | | |
| 1ST. FLOOR | | | | | | | | |
| 2ND | | | | | | | | |
| 3RD | | | | | | | | |
| 4TH | | | | | | | | |
| 5TH | | | | | | | | |
| 6TH | | | | | | | | |
| 7TH | | | | | | | | |
| 8TH | | | | | | | | |
| TOTAL | | | | | | | | |

### B5 EQUIPMENT

HEATING APPARATUS

| TYPE | | | FUEL | | |
|---|---|---|---|---|---|
| HOT AIR | | | COAL | | |
| STEAM | 2 | | WOOD | 2 | |
| HOT WATER | 3 | | GAS | 3 | |
| HEAT'G. STOVE | 4 | | FUEL OIL | 4 | |
| NONE | 5 | | KEROSENE | 5 | |
| | | | NONE | 6 | |
| | | | | | |
| OTHER | 9 | | OTHER | 9 | |
| | | | | | |

### B6 SERVICES

| USE | | GAS | ELEC |
|---|---|---|---|
| LIGHTING | 1 | | |
| COOKING | 2 | | |
| LIGHTING AND COOKING | 3 | | |
| NOT USED FOR LTG. & COOK. | 4 | | |

| B7 MECH REFRIG | NO | YES | YES |
|---|---|---|---|
| | | | |

### B8 RUNNING WATER

| | | |
|---|---|---|
| COLD IN BUILDING | 1 | |
| HOT AND COLD IN BUILDING | 2 | |
| NONE IN BUILDING | 3 | |
| YARD ONLY | 4 | |

## C. HOUSEHOLD UNIT

| C1 DWELLING-APARTMENT-STORE | | | | | | | | | | TOT. |
|---|---|---|---|---|---|---|---|---|---|---|
| DESIGNATE FLOOR AND UNIT | | | | | | | | | | |
| ROOMS FLOOR OR UNIT | | | | | | | | | | |
| KITCHEN FLOOR OR UNIT | | | | | | | | | | |
| BATHROOM FLOOR OR UNIT | | | | | | | | | | |
| GEN. APPEARANCE | | | | | | | | | | |

### C2 EQUIPMENT

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| WATER SUPPLY COLD HOT | | | | | | | | | |
| W. C. NO AND WHERE | | | | | | | | | |
| SINKS PER FLOOR OR UNIT WHERE | | | | | | | | | |
| TYPE OF HEAT | | | | | | | | | |
| TYPE OF LIGHT | | | | | | | | | |
| COOKING FUEL | | | | | | | | | |

### C3 OCCUPANCY

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| IF VACANT HOW LONG? | | | | | | | | | |
| IF OCCUPIED HOW LONG? | | | | | | | | | |
| NO OF OCCUPANTS | | | | | | | | | |
| NO OF FAMILIES | | | | | | | | | |
| WHITE-COLORED-OTHER | | | | | | | | | |

### C4 OWNERSHIP OR RENTAL

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| OWNER OCCUPIED | | | | | | | | | |
| VALUE | | | | | | | | | |
| FREE OR MORTGAGED | | | | | | | | | |
| RENT PAID BY MANAGER | | | | | | | | | |
| RENT PAID BY JANITOR | | | | | | | | | |
| RENT PAID BY TENANT | | | | | | | | | |
| PAST RENTAL IF CHANGED | | | | | | | | | |
| DATE OF CHANGE | | | | | | | | | |

### C5 RENTAL CONCESSIONS

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| FURNISHINGS | 1 | | | | | | | | |
| JANITOR SERVICE | 2 | | | | | | | | |
| HOUSEHOLD MAID OR VALET SERVICE | 3 | | | | | | | | |
| ELECTRICITY | 4 | | | | | | | | |
| GAS | 5 | | | | | | | | |
| WATER | 6 | | | | | | | | |
| HEAT | 7 | | | | | | | | |
| MECH. REFRIGERATOR | 8 | | | | | | | | |
| OTHER | 9 | | | | | | | | |

### C6 VEGETABLE GARDEN LAST YEAR

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| ON PROPERTY | 1 | | | | | | | | |
| ELSEWHERE | 2 | | | | | | | | |

### C7 PREVIOUS RESIDENCE IF MOVED SINCE JUNE 1935

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| LOCATION | | | | | | | | | |
| RENTAL | | | | | | | | | |
| DWLG-APT-STORE | | | | | | | | | |
| OTHER CLASSIFICATION | | | | | | | | | |
| NO. OF ROOMS | | | | | | | | | |
| WHY MOVED | | | | | | | | | |

extended by a few minutes the time required by the enumerator to make the SS-1A call.

The SS-1A Supplement was supplied in pad form and the completed sheets with proper address were placed in the schedule book along with its corresponding SS-1A schedule. The checking staff edited the supplement sheets for complete information and agreement with the SS-1A schedule. When the checking was completed the supplement sheets were tied together in groups by Wards. At a later date, these schedules were coded and the information tabulated by the Philadelphia Tabulating Section, for the City Planning Commission.

Real Property Inventory

In December, 1933, the Federal Civil Works Administration in Washington, D.C. laid plans to conduct a Real Property Inventory in 63 selected cities throughout the United States, as a part of the President's Re-employment plan. Pittsburgh and urban Allegheny County was selected, and the work was carried out by the Social Surveys Section of Civil Works Administration of Pennsylvania in conjunction with the Bureau of Business Research of the University of Pittsburgh.

The Bureau of the Census in Washington drafted the schedules and instructions for enumeration and furnished them for the project. The Social Surveys Section and the Bureau of Business Research of the University of Pittsburgh planned and supervised the field work and tabulated the data. The personnel was furnished through the State Reemployment Office in Pittsburgh. The work was carried out concurrently with the Unemployment Census of the Social Surveys.

The Real Property Inventory secured valuable information as to the number and kind of buildings, commercial and residential, the condition of these structures, vacancies, capacity of residences and apartments, sani-

tary and heating facilities, and extent of families doubling up, the amount and location of old and absolete buildings is necessary for slum clearance, and rehousing projects. All of the data gathered will be used in planning any Federal construction progr ms.

The progress of the field work of the Real Property Inventory has been described along with the Unemployment Census. The number of entries made by the enumerator on the RPI schedule for each household unit was 32 and the number of entries on the SS-IA schedule for the average family was approximately 50. When planning the work, it was estimated that the average production for the county would be two household units per hour. The actual average production was 2.38 household units per hour. This record was made, as already mentioned in the SS-IA report, during the month of February, when extreme cold and stormy weather prevailed.

When a region completed the RPI survey, the best trained enumerators and supervisors were sent out on a 15% RPI intensive survey, and in one section of Pittsburgh a 40% RPI intensive survey was conducted.

The cost of the field work on RPI units was 37.9 cents, and the RPI intensive units 38.2 cents, including prorated charge of Harrisburg Administrative Staff.

In Philadelphia, A Real Property Inventory was made after the completion of the Unemployment Census. The information obtained was practically the same as in Allegheny County. This Survey was known as the SS-4, which was the designation given to the form used. This form was drawn up by the Social Surveys Section and the City Planning Commission. A copy of this schedule is shown on the opposite page, and it will be noted that it is designed as a self-coding sheet. Instead of the enumerator writing in the data it is only necessary to check off the correct item under the group and division.

Between March 8 and 16, a representative of the City Planning Commission, the area supervisor and the 12 section supervisors held several conferences to discuss the SS-4 form, the instructions for enumerating and minor changes in organization to carry on the field work.

Instructions were given to the district supervisors and enumerators and the field work began on March 19 and was completed by April 30. With slight changes, the field organization was from the Unemployment Census, utilizing the same field offices and the most proficient enumerators.

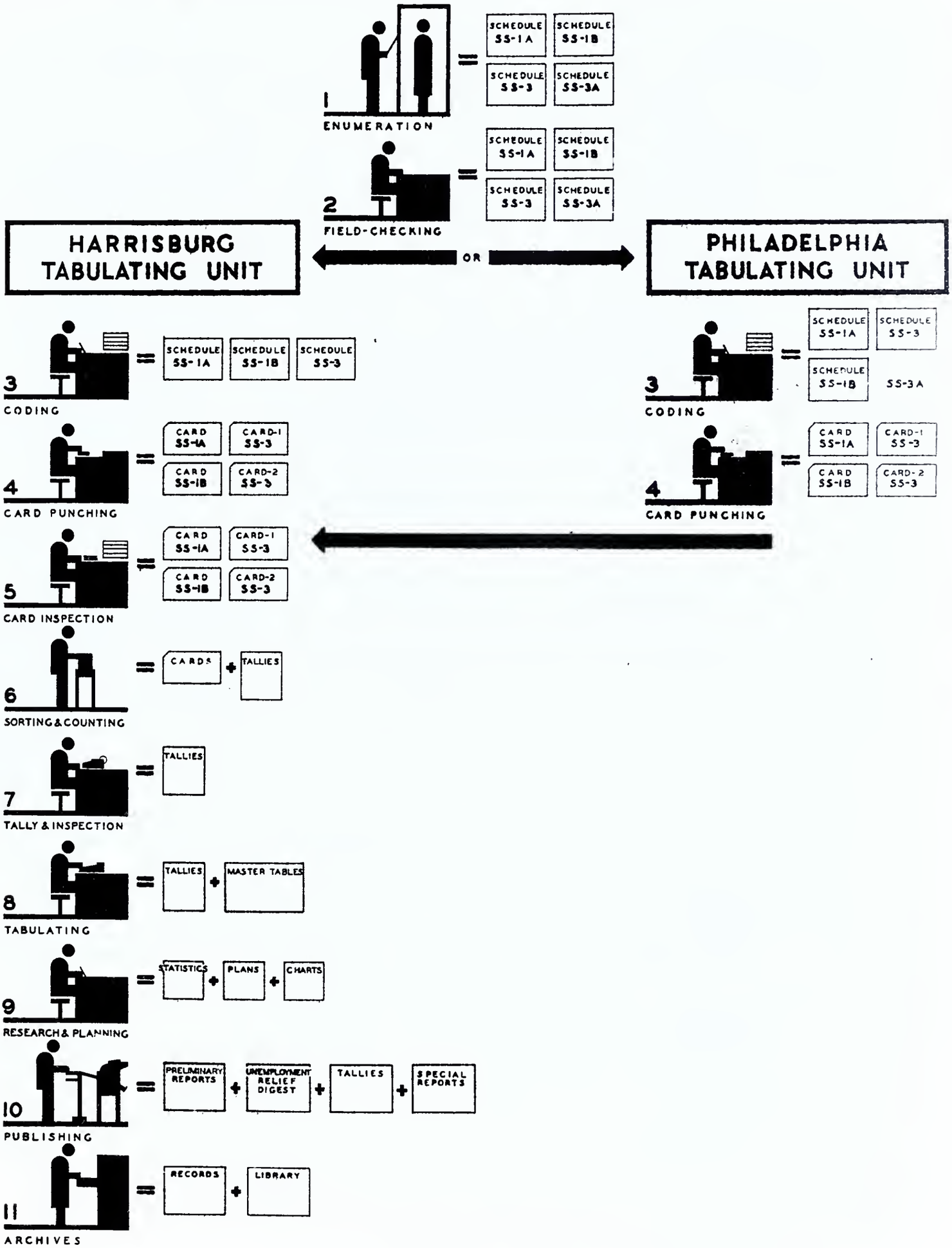
At the beginning, there were 159 supervisors and 1706 enumerators, but this force was gradually reduced to 157 supervisors and 848 enumerators.

During this period, the field crew filled out and turned in 406,526 schedules. The average production was twenty schedules, per day. A few enumerators reached a maximum of over 50 schedules per day.

On June 25,a special field group was started in the central portion of the city, which was to have been covered by the City Planning Commission. This work was completed August 9. In this section,33,824 schedules were obtained. To complete the Real Property Inventory for Philadelphia,the City Planning Commission transcribed to 21,281 schedules,the data they had gathered in the central section of the city east of Broad Street. A total of 461,581 schedules were obtained in the city and this data was tabulated and published by the Philadelphia Tabulating Division.

Complete information as to the cost of the field work on the RPI Survey is shown in the chapter on Financial Data. The actual cost of field work per schedule, including Harrisburg supervision, was 40 cents.

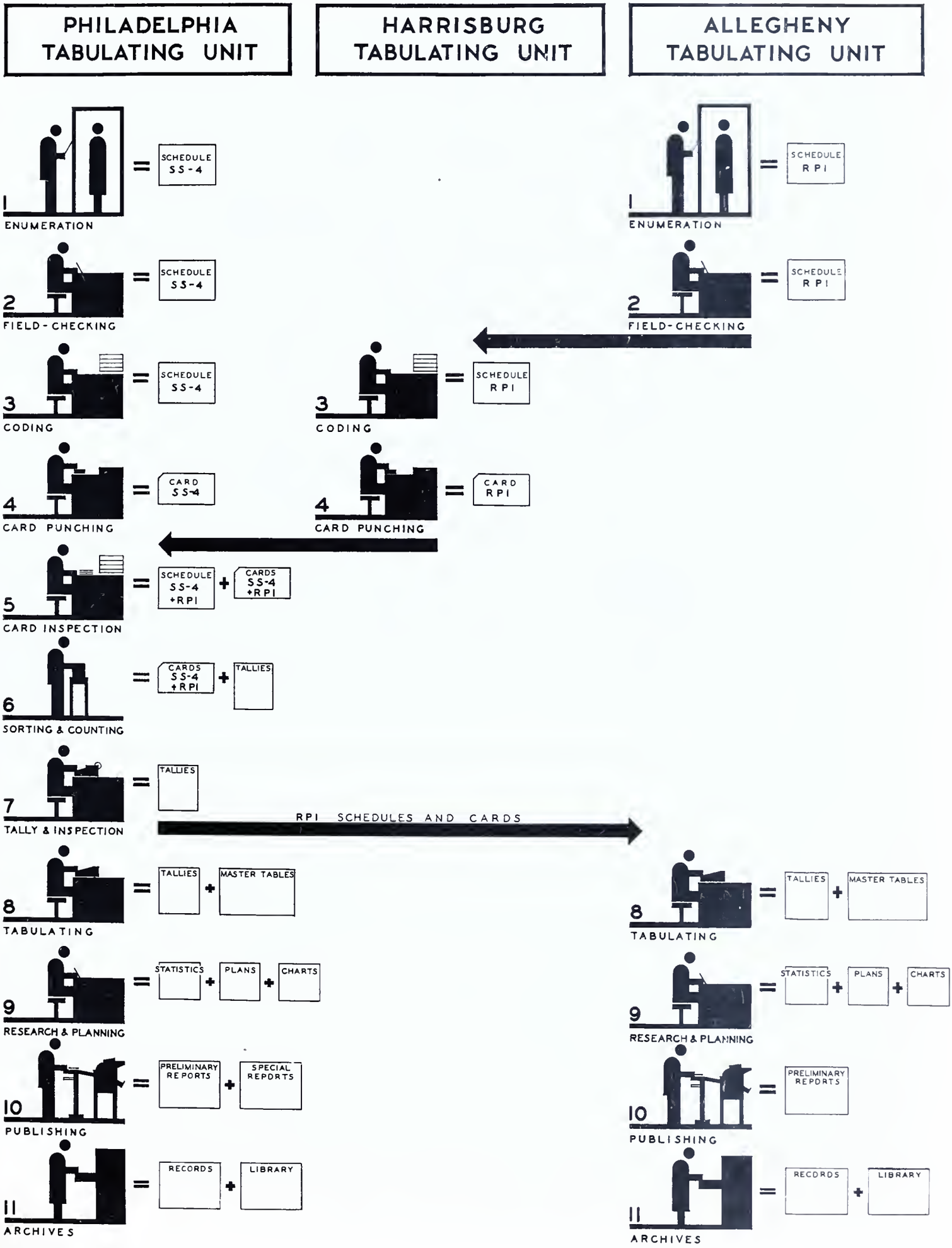
# UNEMPLOYMENT SURVEYS CONDUCTED BY THE SOCIAL SURVEYS SECTION 1934




SOCIAL SURVEYS SECTION 1934

SOCIOGRAPHICS PHILADELPHIA

# REAL PROPERTY SURVEYS CONDUCTED BY THE SOCIAL SURVEYS SECTION 1934




SOCIAL SURVEYS SECTION 1934

SOCIOGRAPHICS
PHILADELPHIA

# CHAPTER III

# TABULATING THE DATA

## CODING

Coding is the assignment of a different numerical symbol to represent each bit of information on the schedule.The coding department devised these numerical symbols and placed them on the schedules.

The tremendous amount of detail on the schedule made rapid and accurate coding by one person impossible. This necessitated the division of operations,each part of the schedule being assigned to a different group of persons. Therefore, small groups were trained to code small sections of the schedules, and the schedule books were passed from one group to the next.

One group was organized to check the identification information and assign a sequence number to the schedule.Another group was assigned to edit the schedules. Four groups were required to assign the code numbers to the information and a final group was used for inspection.

Organization

The Coding Department, included two hundred sixty persons operating in two shifts of one hundred thirty each under the direction of shift supervisors. The two shift supervisors each selected an assistant from among their employees, and the process of instructing all coders in their respective duties was then undertaken.

During this training period time studies were made in order to determine the number of persons needed in each group to sustain an even flow of work through the department.

Inspectors were appointed to check the work of each group. Schedules coded in error were returned to coder responsible for the error, who made the necessary corrections. A record of these errors and corrections was maintained by the inspectors.

Messengers were employed to route the work in the most efficient man-

# FLOW OF WORK WITHIN THE CODING DEPARTMENT

## PREVIOUS TO CHANGE

FROM FIELD

| | CODERS | INSPECTORS | |
|---|---|---|---|
| GROUP I | 10 | 2 | CODING OF COUNTIES, CITIES, BOROUGHS & TWPS |
| GROUP II | 36 | 4 | EDITING OF SCHEDULE AS A WHOLE |
| GROUP III | 14 | 2 | CODING OF SEX, NATIVITY, AND EMPLOYMENT STATUS |
| GROUP IV | 16 | 2 | CODING OF OCCUPATION |
| GROUP V | 20 | 2 | CODING OF INDUSTRY |
| GROUP VI | 10 | 2 | CODING OF PERIODS OF UNEMPLOYMENT |
| GROUP VII | 8 | 2 | GENERAL INSPECTION |

TO KEY-PUNCHING DEPT.

## AFTER CHANGE

FROM FIELD

| | CODERS | INSPECTORS | |
|---|---|---|---|
| GROUP I-A | | 2 | BOOK NUMBERS & GENERAL INSPECTION |
| GROUP I | 10 | 2 | CODING OF COUNTIES, CITIES, BORO'S. & TWPS. |
| GROUP II | 34 | 4 | EDITING OF SCHEDULE AS A WHOLE |
| GROUP III | 8 | 2 | CODING OF SEX, NATIVITY, AND EMPLOYMENT STATUS |
| GROUP IV | 10 | 2 | CODING OF OCCUPATION |
| GROUP V | 10 | 2 | CODING OF INDUSTRY |
| GROUP VI | 6 | | CODING OF PERIODS OF UNEMPLOYMENT |
| GROUP VII | | 8 | GENERAL INSPECTION |

TO KEY-PUNCHING DEPT.

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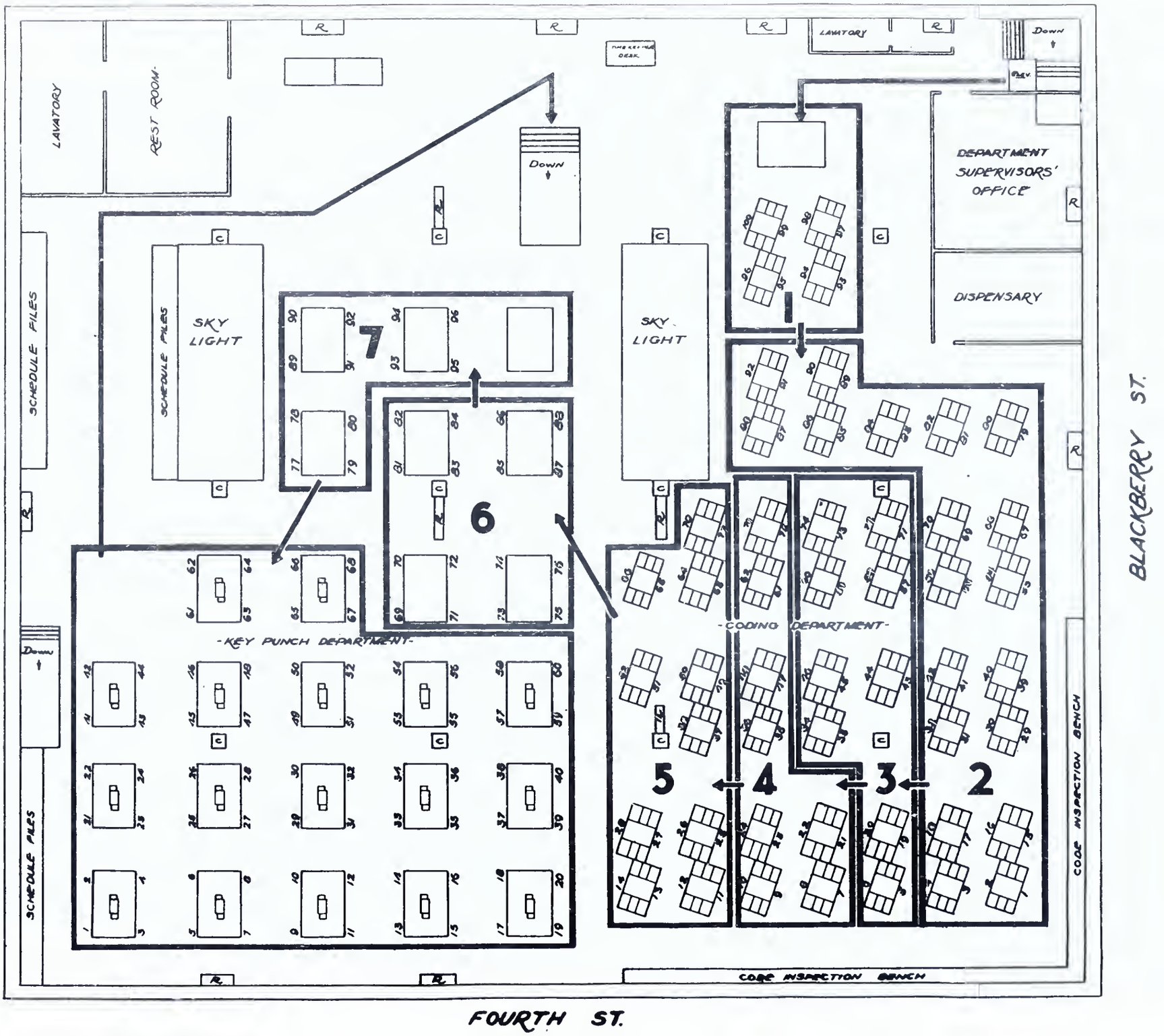
ner from group to group, care being taken that a proper supply of schedules was maintained at all times at each point in the process. The work was kept moving on a progressive plan; that is, as soon as schedules were completed by one group and approved by its inspectors, they were delivered to the next group, and so on until they reached the final general inspection group, which was situated in proximity to the Key-Punching Department.

When production was stepped up this simple plan was not entirely satisfactory. Rivalry developed between the two shifts with a resultant disregard for accuracy. Attempts were made to completely exhaust the supply of work at the end of each shift period which entailed a loss of time for the groups of the following shift who were forced to wait until normal flow was restored. Time studies were made of the operations for the several groups and, on the basis of this, better organization was effected. Leaders of all groups were informed that they were expected to leave enough work on their tables at the end of the shift to enable the following shift to carry on until work was received. The chart reproduced on the opposite page shows the relationships between groups before and after the reorganization.

A new group was formed (1-A) to check and inspect all incoming books of schedules for completeness of county quota, and to guard against the assignment of duplicate book numbers. The personnel was re-distributed among the remaining groups, so as to maintain a smooth flow of work, while supervisors were instructed to maintain an ample volume of work in process in all groups, and to remove completed work no more rapidly than the inflow at Group 1-A. This was done by aid of control sheets which were scrutinized and analyzed by the General Supervisor. Intershift rivalry was discouraged, better cooperation developed among supervisory personnel, accuracy was improved, and production increased.

# PLAN OF THE SECOND FLOOR - FLOW DIAGRAM



Further changes to increase the effectiveness of the department were the appointment of a General Departmental Supervisor, with direct supervision over the three shifts, and one additional assistant supervisor for each shift. One assistant supervisor on each shift then applied himself to production, while the other assumed responsibility for settling all questions of proper procedure or interpretation of rulings. These latter duties were later assumed by a group of six rationalizers, chosen by competitive examination. This group was in authority on all disputed matters regarding coding and continued to function satisfactorily until the coding work was completed.

The routing of the work through the coding process is explained in the two charts showing the flow of work.

Selection and Training

The selection and training of the coding groups presented a problem of some extent which proved to be more difficult than had been anticipated. The only people eligible for the work were those referred by the State Employment Offices; few of these had had any experience in work of this type, and many, no advanced education. A cross section of this group showed housewives, saleswomen, clerks, typists, maids, waitresses, teachers, business men, etc.; they were predominantly women, and ranged in age from eighteen to seventy.

The previous experience of each coder was analyzed with a view toward determining his or her relative aptitudes and assignments were made to various groups on this basis; for instance, a man familiar with business organizations was placed in the group to code industries.

After the selection for the various groups had been made, the entire coding staff was assembled and the purpose of the project, its importance, and the ultimate aims of its sponsors were explained. Each group then dis-

cussed its own problems.

Then a large number of sample schedules were prepared in exact duplicate of those sent in from the field. These samples were routed through the Coding Department as practice work; each group had its own coding instructions in printed form and an instructor to explain each item in conjunction with the sample schedule.

Each person was then given one sheet to code for his particular section; when each coder had finished his part, the instructor gave it a complete check, and where errors were found, an immediate explanation was given to the worker. Thus each different coded entry was taken up in turn and the corrected sheets kept as models.

Production

Early in the program schedule books were cut apart and each schedule was routed through the coding process. This procedure was followed on forms SS1A for Philadelphia and Allegheny Counties, with increasing production, as shown on production reports for February 16 to April 16, inclusive.

PRODUCTION REPORT - CODING DEPARTMENT-SS1A
FEBRUARY

| Date | Production |
|---|---|
| Feb. 16 | 13767 |
| Feb. 17 | 10737 |
| Feb. 19 | 18015 |
| * " 20 | 2473 |
| * " 22 | 722 |
| * " 23 | 5211 |
| " 26 | 16122 |
| " 27 | 14176 |
| * " 28 | 6528 |
| Total | 85751 |

* Remarks: One Shift Working

PRODUCTION REPORT - CODING DEPARTMENT-SS1A
MARCH

| Date | Production |
|---|---|
| March 1 | 15003 |
| " 2 | 17461 |
| " 3 | 12782 |
| " 5 | 25370 |
| " 6 | 24871 |
| " 7 | 26010 |
| " 8 | 31590 |
| " 9 | 37507 |
| " 12 | 40701 |
| " 13 | 22979 |
| " 14 | 26593 |
| " 15 | 37909 |
| " 16 | 31532 |
| " 19 | 38366 |
| " 20 | 54139 |
| " 21 | 33637 |
| " 22 | 33731 |
| " 23 | 29046 |
| *-1" 26 | 5670 |
| 1*" 27 | |
| " 28 | 15898 |
| 2*" 29 | 13702 |
| Total | 557417 |

* Remarks: One Shift Working
1* Arranging Schedules for filing
2* Closed 30th Change over from CWA - WD

As work on the unemployment schedules SS-1A neared completion deal Property Inventory schedules were routed through the department. These necessitated an entirely different sort of treatment which accounts for the apparently low production figures appearing below.

PRODUCTION REPORT - CODING DEPARTMENT
APRIL 13th Inclusive

| Date | Identification | Production |
|---|---|---|
| April 3 | SS-1A | 26645 |
| " 4 | " | 35448 |
| " 5 | " | 22862 |
| " 6 | " | 3158 |
| " 9 | " | 17123 |
| " 10 | " | 4770 |
| * " 11 | " | 70 |
| * " 12 | " | 100 |
| " 16 | " | 2649 |

PRODUCTION REPORT - CODING DEPARTMENT (CONTINUED)
APRIL

| Date | Identification | Production |
|---|---|---|
| *April 17 | SS-1A | 60 |
| * " 17 | RPI | 2470 |
| " 18 | SS-1A | 4652 |
| " 18 | RPI | 850 |
| " 19 | SS-1A | 3 |
| " 23 | " | 698 |
| " 23 | RPI | 1632 |
| " 24 | SS-3 | 576 |
| " 24 | SS-1A | 277 |
| " 24 | RPI | 2815 |
| " 25 | SS-1A | 52 |
| " 25 | SS-3 | 600 |
| " 25 | RPI | 2604 |
| " 26 | SS-3 | 395 |
| " 26 | RPI | 2629 |
| " 30 | SS-1A | 739 |
| " 30 | SS-3 | 2000 |
| " 30 | RPI | 867 |
| Total | SS-1A | 119506 |
| " | SS-3 | 3571 |
| " | RPI | 13867 |

* Remarks: One Shift Working

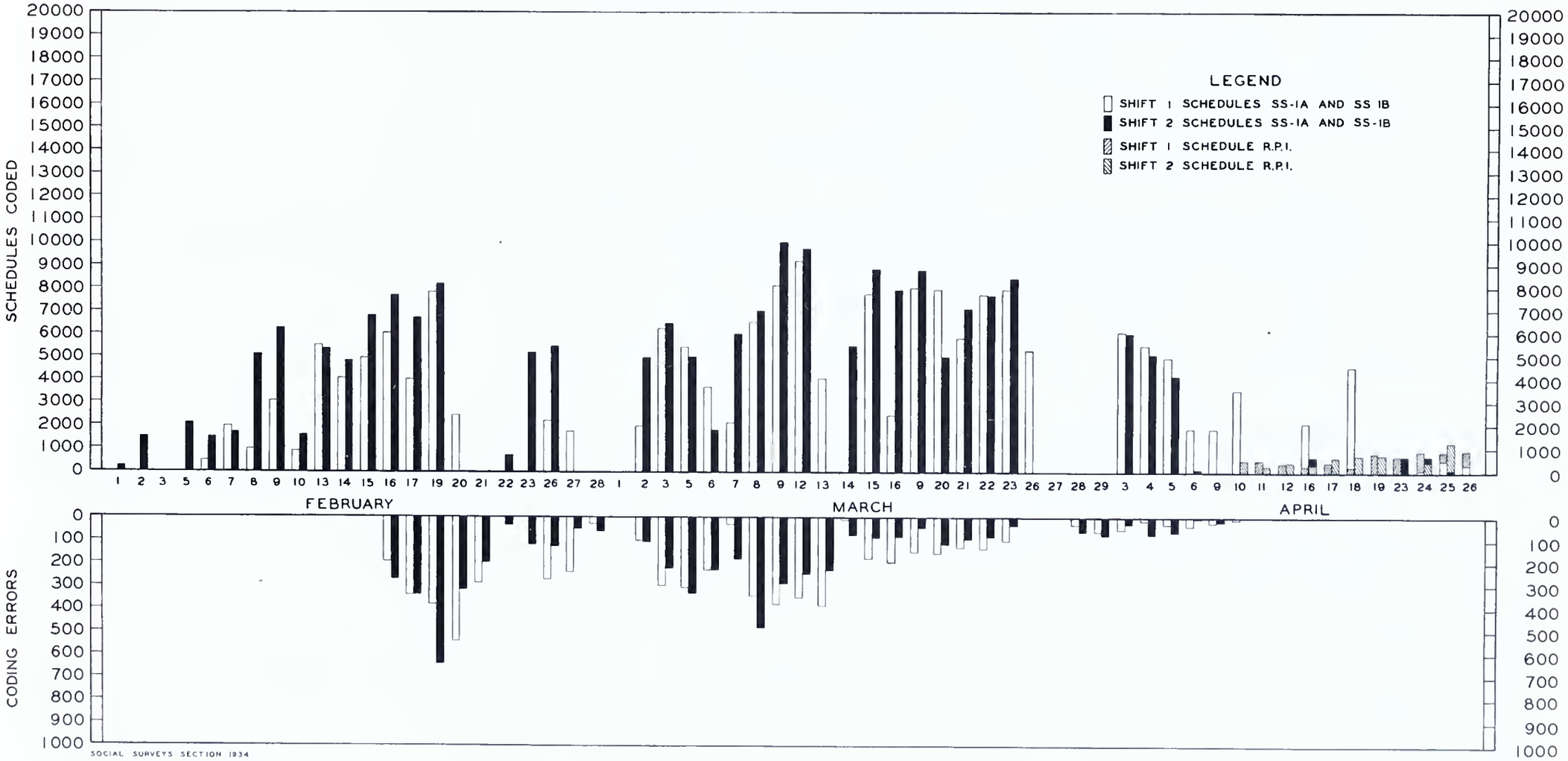
Coding for the remaining counties was commenced upon completion of the property schedules for Allegheny County. Since form SS1A had been replaced by the revised and improved form SS1B, revision in group functions were made.

Meanwhile a reorganization was effected, resulting in a smoother flow of work, greater production per person, and a decrease in the number of errors. A complete record of errors were kept and analyzed daily. Corrective measures were taken which resulted in a decrease in the percentage of errors. The results of the change are evident from the Production Reports for May and June.

PRODUCTION AND ERROR REPORT - CODING DEPARTMENT-SS1B
MAY 4TH, INCLUSIVE

| Date | Production | *3 Errors | Percentage of Errors per Schedule |
|---|---|---|---|
| May 1 | | No Record | |
| " 2 | | No Record | |

# NUMBER OF SCHEDULES CODED AND CODING ERRORS DURING FEBRUARY - MARCH - APRIL



PRODUCTION REPORT - CODING DEPARTMENT (CONTINUED)
MAY

| Date | Production | *3 Errors | Percentage of Errors per Schedule |
|---|---|---|---|
| May 3 | 9540 | No Record | |
| * " 4 | 2315 | " | |
| 1* " 7 | 3315 | " | |
| " 8 | 11698 | " | |
| " 9 | 11084 | 528 | 4.8 |
| 2* " 10 | 11331 | " | |
| 1* " 11 | 9072 | 288 | 3.2 |
| " 12 | 14396 | 549 | 3.8 |
| " 14 | 19816 | 689 | 3.5 |
| " 16 | 23645 | 419 | 1.8 |
| " 17 | 20578 | 472 | 2.3 |
| " 18 | 19845 | 267 | 1.3 |
| " 19 | 20505 | 240 | 1.2 |
| " 21 | 19600 | 234 | 1.2 |
| " 22 | 17724 | 275 | 1.6 |
| " 23 | 19200 | 192 | 1.0 |
| " 24 | 22754 | 254 | 1.1 |
| 1* " 25 | 14655 | 162 | 1.1 |
| " 26 | 25547 | 198 | 0.8 |
| " 28 | 20293 | 213 | 1.0 |
| " 29 | 23713 | 222 | 0.9 |
| " 31 | 23919 | 222 | 0.9 |
| Total | 364745 | 5424 | |
| " | 326546 | 5424 | 1.7 |

* Remarks: One Shift Working
1* Two Shifts Working
2* Old Work - 2 Shifts Working
3* Errors found and corrected in Department

PRODUCTION AND ERROR REPORT - CODING DEPARTMENT - SS-1B
JUNE 20th inclusive

| Date | Production | Errors | Percentage of Errors per Schedule |
|---|---|---|---|
| June 1 | 30380 | 219 | 0.7 |
| * " 2 | 13624 | 104 | 0.8 |
| " 4 | 19675 | 154 | 0.8 |
| " 5 | 20455 | 120 | 0.6 |
| " 6 | 21961 | 166 | 0.8 |
| " 7 | 23524 | 147 | 0.6 |
| " 8 | 23254 | 160 | 0.7 |
| * " 9 | 13092 | 77 | 0.6 |
| " 11 | 23964 | 212 | 0.9 |
| " 12 | 23122 | 167 | 0.7 |
| " 13 | 24179 | 134 | 0.6 |
| " 14 | 24166 | 142 | 0.6 |
| " 15 | 23957 | 111 | 0.5 |
| * " 16 | 15259 | 84 | 0.6 |
| " 18 | 24549 | 112 | 0.5 |

PRODUCTION REPORT - CODING DEPARTMENT (CONTINUED)
JUNE

| Date | Production | Errors | Percentage of Errors per Schedule |
|---|---|---|---|
| June 19 | 32263 | 202 | 0.6 |
| " 20 | 26429 | 92 | 0.3 |
| " 21 | 27215 | 113 | 0.4 |
| " 22 | 25941 | 54 | 0.2 |
| " 25 | 25435 | 51 | 0.2 |
| * " 26 | 19232 | | |
| Totals | 481674 | 2621 | 0.5 |

* Remarks: One Shift Not Working
1* Coding Completed

A Production Report Summary follows:

PRODUCTION AND ERROR REPORT - CODING

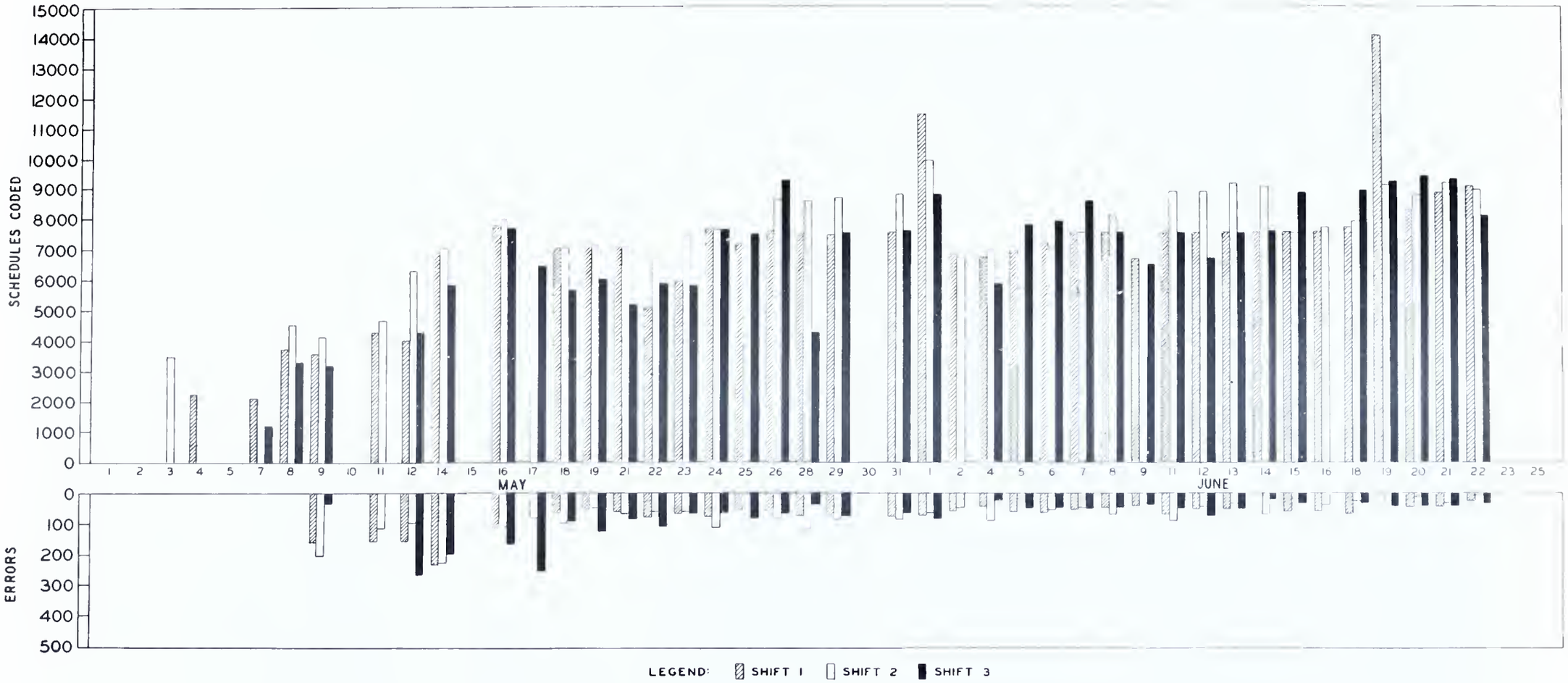
| Month | Identification | Number of Schedules Coded | Errors | Percentage of Error | |
|---|---|---|---|---|---|
| Feb. | SS-1A | 35751 | No Record | | |
| Mar. | SS-1A | 557417 | " | | |
| April | SS-1A | 119506 | " | | |
| April | SS-3 | 3571 | " | | |
| May | SS-1B | 323546 | 5424 | 1.7 | Average Per Shift |
| May | SS-1B | 36199 | No Record | | |
| June | SS-1B | 481674 | 2621 | 0.5 | Average Per Shift |
| Total | SS-1A | 643168 | No Record | | |
| " | SS-3 | 3571 | No Record | | |
| " | SS-1B | 843419 | 8045 | .99 | General Average Per Shift |
| " | API | 15867 | No Record | | |

SPECIAL WORK

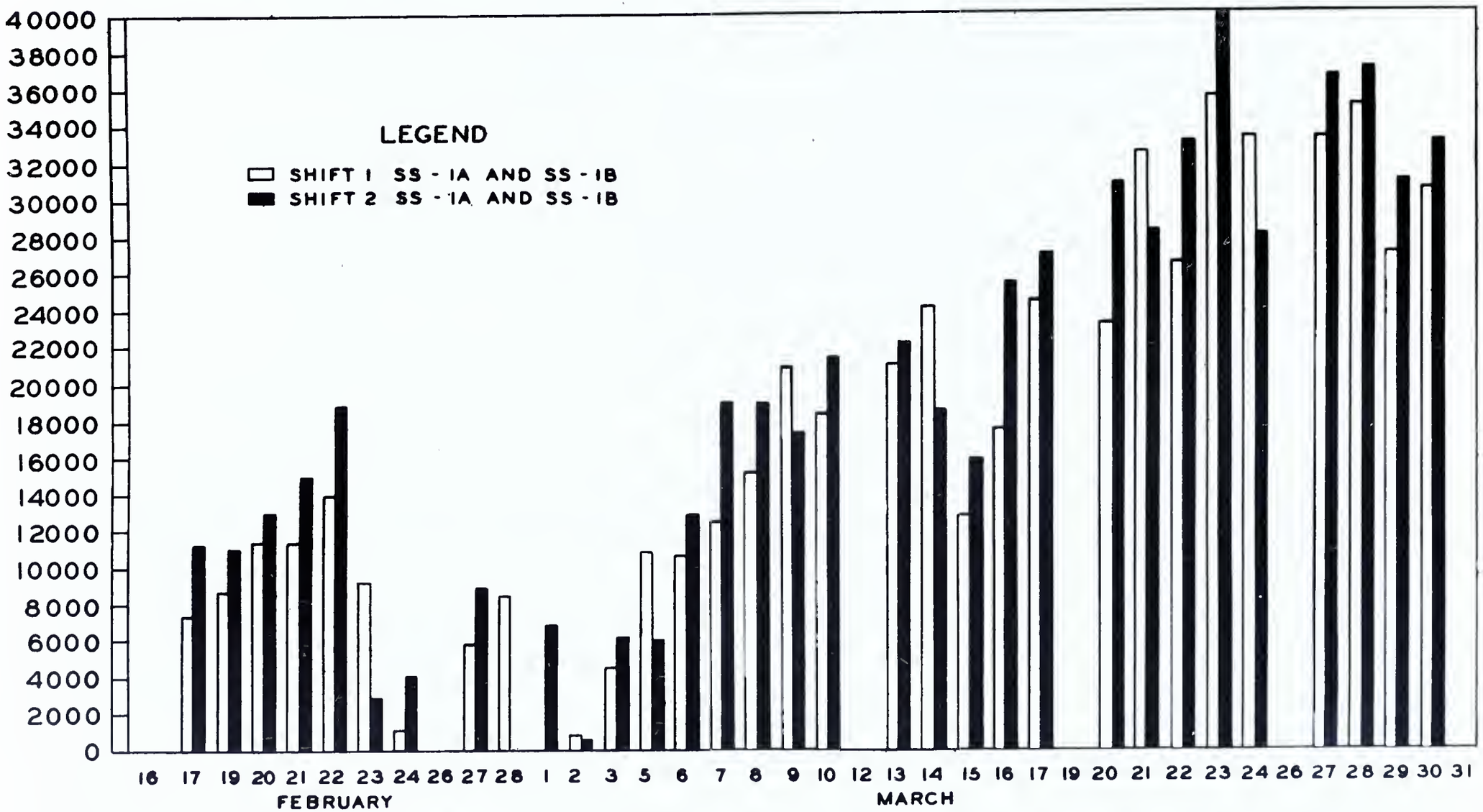
Payroll Analysis Sheets - One day per week for 6 weeks. Feb. & Mar.
* Occupational Classification OMA 2 Days March
Coded applications of entire personnel and Administrative Staff of the SERB June 27th to July 18th
* Other estimates are from 4 to 6 days.

On occasion the Department assisted other organizations that had jobs to complete. For example, the S.E.R.B. Administrative Office sent Pay Roll analysis sheets which were prepared for the key punchers by the insertion of digits to conform with the required "set-up." A tabulation of the occupational characteristics of C.W.A. workers was also made.

# NUMBER OF SCHEDULES CODED AND CODING ERRORS DURING MAY AND JUNE



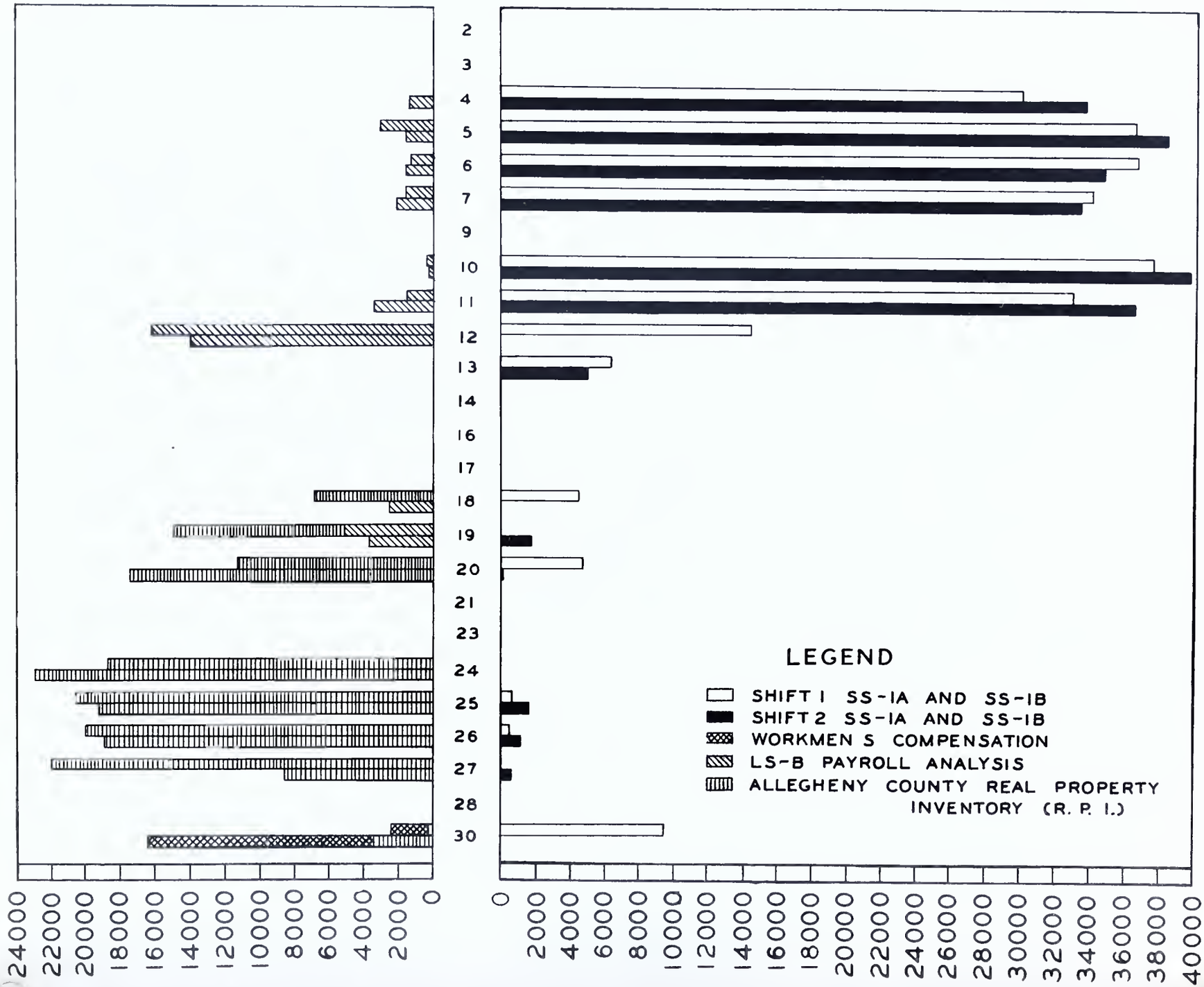
# NUMBER OF HOLLERITH CARDS PUNCHED DAILY
## FEBRUARY AND MARCH




SOCIAL SURVEYS SECTION 1934

# NUMBER OF HOLLERITH CARDS PUNCHED DAILY

## APRIL




SOCIAL SURVEYS SECTION 1934

## KEY PUNCHING

### Organization and Development

In organizing the Key Punch Department a General Supervisor was appointed with one assistant for each shift. One hundred persons employed as Key Punch operators were placed at tables especially designed and constructed for this purpose. These tables were so wired as to seat four people at machines with ample space for systematically placing both cards and schedules before them. Small boxes, so constructed for the center of these tables, eliminated confusion when messengers gathered finished work.

At this period a Card Inspection Department was created. This department in addition to inspecting all cards and schedules had charge of the messenger staff mentioned above. It was originally planned to inspect 20% of the cards punched. To do this it was estimated that ten card inspectors would be sufficient but because of the large number of errors it was found desirable to inspect all cards punched. This necessitated an additional forty card inspectors bringing the total personnel of the department to fifty.

At a later period when the tabulating division was reorganized the Inspection Department and the Key Punching Department were combined under one General Supervisor. Reporting to him were two assistants, one in charge of card punching and one in charge of card inspection. This reform by eliminating division of responsibility between shifts, increased accuracy without causing a marked decrease in the actual production of punched cards.

One change in procedure was made, whereas, heretofore the schedule books had been cut apart and schedules worked upon as individual sheets, the books were now left intact. This cut down considerable the number of mislaid schedules and cards.

On June 22nd a third shift was started in the Key Punching Department; persons who had received their previous training as card punchers but who had been transferred to other departments were recalled for this duty.

Selection and Training of Personnel

It would be exceedingly difficult anywhere to find 200 trained key-punch operators. Consequently, girls with high school education and some office training were employed and trained. The routine work which was required of them was of the type to which they could quite readily adjust themselves. All of the persons employed to operate the key-punch machines on various shifts, consisting of approximately a hundred people, were dependent upon the knowledge and previous experience of about four operators for training in operation. This, of course, necessitated a period of about three weeks tutelage before all the operators could be regarded as sufficiently proficient.

The Inspection Department in contrast to the Card Punching Department consisted of men most of whom were over thirty. They took their task quite seriously and were extremely accurate. Card inspection is a job which requires alertness at all times for the routine often reduces it to a purely mechanical inspection which results in a large number of errors escaping inspectors.

Personnel

The twenty original members of the Card Inspection group who became quite familiar with the functioning of the organization were practically all placed in various supervisory capacities as soon as the remaining personnel of the Inspection Department became thoroughly acquainted with their duties.

Details of Production

The Key Punch Department was confronted with the task of maintaining

An average production of approximately fifty thousand cards per day, or twenty-five thousand per shift.

There are no actual figures for the production in the Key Punch Department. Control figures were arrived at by counting the number of cards inspected and the number rejected.

The following tables represent two distinct types of errors or reject cards.

Table #1 - Key Punch Operators Rejects.

Table #2 - Inspectors Rejects.

Operator Rejects were cards containing some self detected error and in no instance were they ever inspected.

The Inspector Rejects were cards that were in error either because of incorrect punching or coding discovered by Inspector.

TABLE #1
Key Punch Operators Rejects

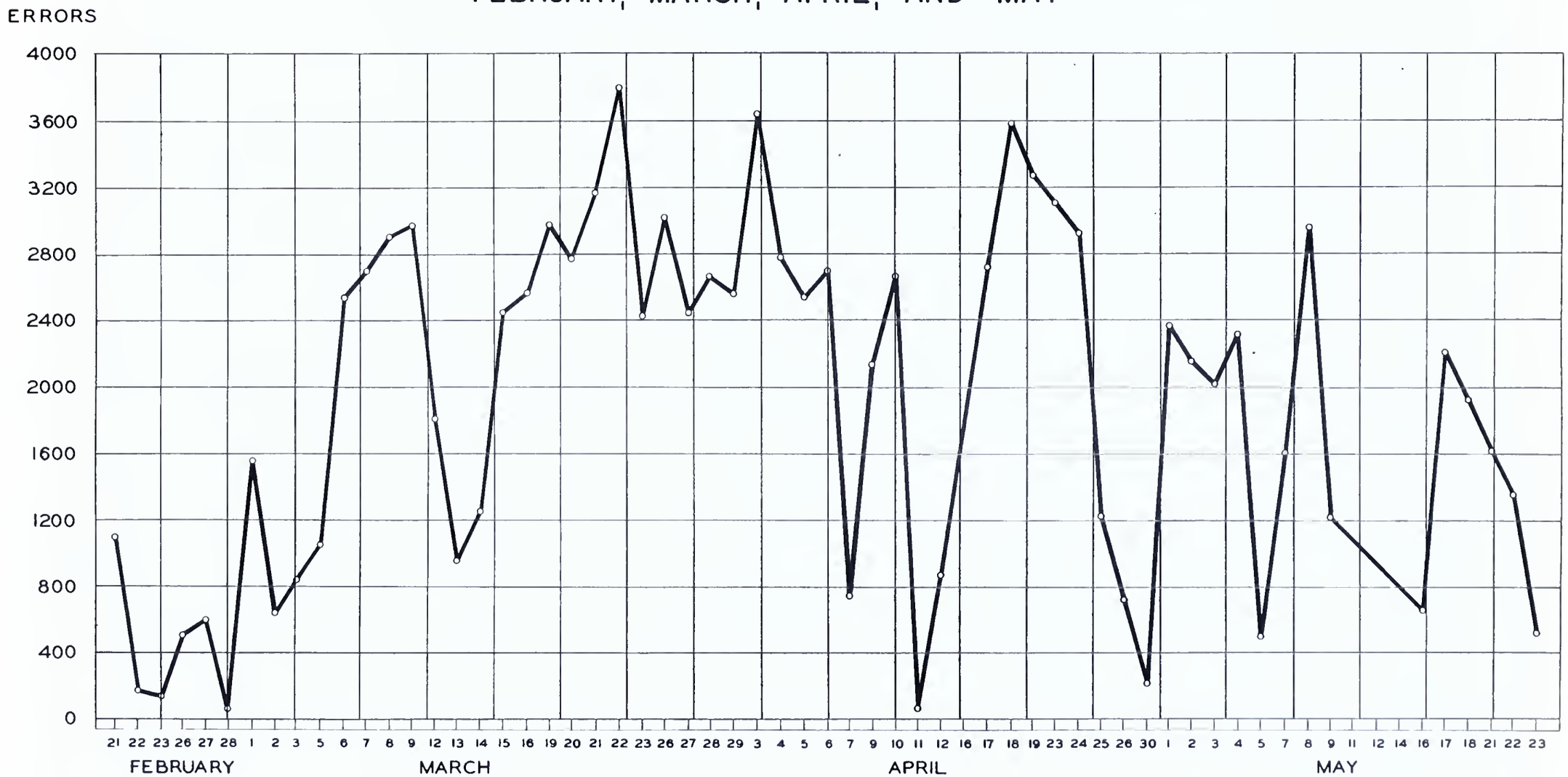
| Date | Number of Operators Rejects | Daily Production Cards Inspected | Percentage of Rejects |
|---|---|---|---|
| 2-26-34 | 615 | 8400 | 7.3 |
| 5-9-34 | 2136 | 78200 | 2.7 |

The above table shows that after ten weeks of experience production increased 9.3 times, whereas rejects have decreased 4.6 per cent.

TABLE #2
INSPECTOR REJECTS

| | Date | Number of Inspector Rejects | Daily Production Cards Inspected | Percentage of Cards Rejected |
|---|---|---|---|---|
| A | 2-20-34 | 57 | 26500 | .2 |
| B | 5-21-34 | 482 | 20344 | 2.3 |
| C | 6-27-34 | 545 | 81313 | .6 |

PUNCHED HOLLERITH CARDS REJECTED BECAUSE OF OPERATOR'S ERROR
FEBRUARY, MARCH, APRIL, AND MAY




SOCIAL SURVEYS SECTION 1934

A. This date represents an early stage of the project and although errors were greater they were not discovered mainly due to the fact that this work was done by ten inspectors and on a twenty per cent basis of inspection.

B. At this time special work was being done in these departments and with a far lower production, errors have increased quite beyond belief. This was due to the change in procedure. The twenty per cent check was discarded and each card was given a one hundred per cent inspection.

C. The date here is of the last stage of the project with production at its peak. Errors do not show a great proportionate increase.

## SORTING

### Function

The function of the Sorting Department is perhaps best described in instructions issued on March 5th to the operators of the horizontal sorting machines, "Your job as operators of the horizontal sorting machines will be to sort the punched cards in any one or more of the hundreds of combinations as may be required for statistical study."

In addition, the Sorting Department was responsible for the accurate filing of the Hollerith cards and the correct tallying of the information obtained during the sorting runs.

From the first it was evident it would be necessary to have someone in charge of the Hollerith card files. Operators were filing cards themselves, and as shifts were changing, the opportunities for mis-filing cards were numerous. One operator was assigned to this job in addition to devoting his spare time to running a machine. With a daily increase in the number of cards the services of a full-time file clerk and assistants became necessary. Because considerable machine time was lost by the operators who left

# HOLLERITH CARDS USED BY THE SOCIAL SURVEYS SECTION

their machines to get cards from the files or return completed tallies, it was found desirable to add a messenger to each shift. This materially increased production, and at the same time kept the operators from congregating at the files. Later, a second messenger and two additional file clerks were added.

Cards incorrectly punched or cards punched from incorrectly coded schedules, although a small proportion of the cards punched, were a big problem at this time. The department had accumulated about five thousand of these by the middle of March. Schedules were requisitioned from the Filing Department. If the error was found to be a key-punching error, the schedule was forwarded to the Key-Punching Department for re-punching; if a coding error, the schedule was returned to the Coding Department for correction and then to the Key-Punching Department to be punched. There was considerable delay in this method. In some instances it meant the operator and the machine were idle until this correction could be made. All departments were new and manned with inexperienced people, and it was only natural when schedules were returned to the Coding Department that the coding errors were not always found. Consequently, it meant returning schedules two or three times in some instances before the correction was made. In order to eliminate the loss of time, and as a further step toward accuracy and toward increased production, the Sorting Department set up its own correction department, manned with one coder and one card inspector.

To avoid errors in tallies a number of inspectors were appointed who went from machine to machine and checked the arithmetic of the operators and general reasonableness of the results.

In April,a third section was added to the Department. The organization at that time was as follows:

One General Supervisor for the three shifts

One Section Supervisor for each shift

One Assistant Supervisor for each shift

One File Supervisor for each shift.

In July an Assistant General Supervisor, and in September a second Assistant General Supervisor were added by promotion. The improvement in the amount of production and the type of production has well warranted the creating of these jobs. In November it was felt the personnel of this Department was sufficiently trained that the Assistant Supervisors for each shift were not needed and these jobs were discontinued.

Selection and Training Personnel

At the time the Department was started there were actually twenty-three machines received and installed. Six men reported the first day, ten the second, and an additional seven within two weeks. The first sixteen were recruited from the Key-Punching Department, as it was felt the experience of punching cards and of reading schedules would be of help to the operator. To some extent this was true, but later it was found when new men were secured directly from the Employment Office,that little difference was evident in the time it took for training.Persons with previous clerical experience soon learned to compile accurate tallies.Others,whose previous occupations were,for instance,railroad brakemen,laborers,etc., were generally slow in learning, and in some instances impossible to teach. Many of these persons were transferred to other departments for messenger service and routine clerical work where a high degree of skill is not required. The period of training at this time was about two weeks. Later we cut the time to four days, - this in the face of the fact that we were making one tally

at first and a half dozen later on. The difference in the training period was due to more supervision in the department, a closer knowledge of just what was required of the operator, and a more careful selection of the men who were engaged. In the course of training new operators are required to become familiar with all tallies but special emphasis is placed upon the tallies they are expected to compile.

An "Analysis of the Hollerith Cards" listing the possible numbers that might be punched in any given column, was given to each operator the latter part of February and served splendidly to acquaint them with evident mistakes. As an example, Column #54 ("Sex") of the 38-1-a Hollerith card was shown on the Analysis as follows:

-x y - "can never occur"
o - "sex unspecified"
1 - "male
2 - "female"
3 - 9 - "can never occur"

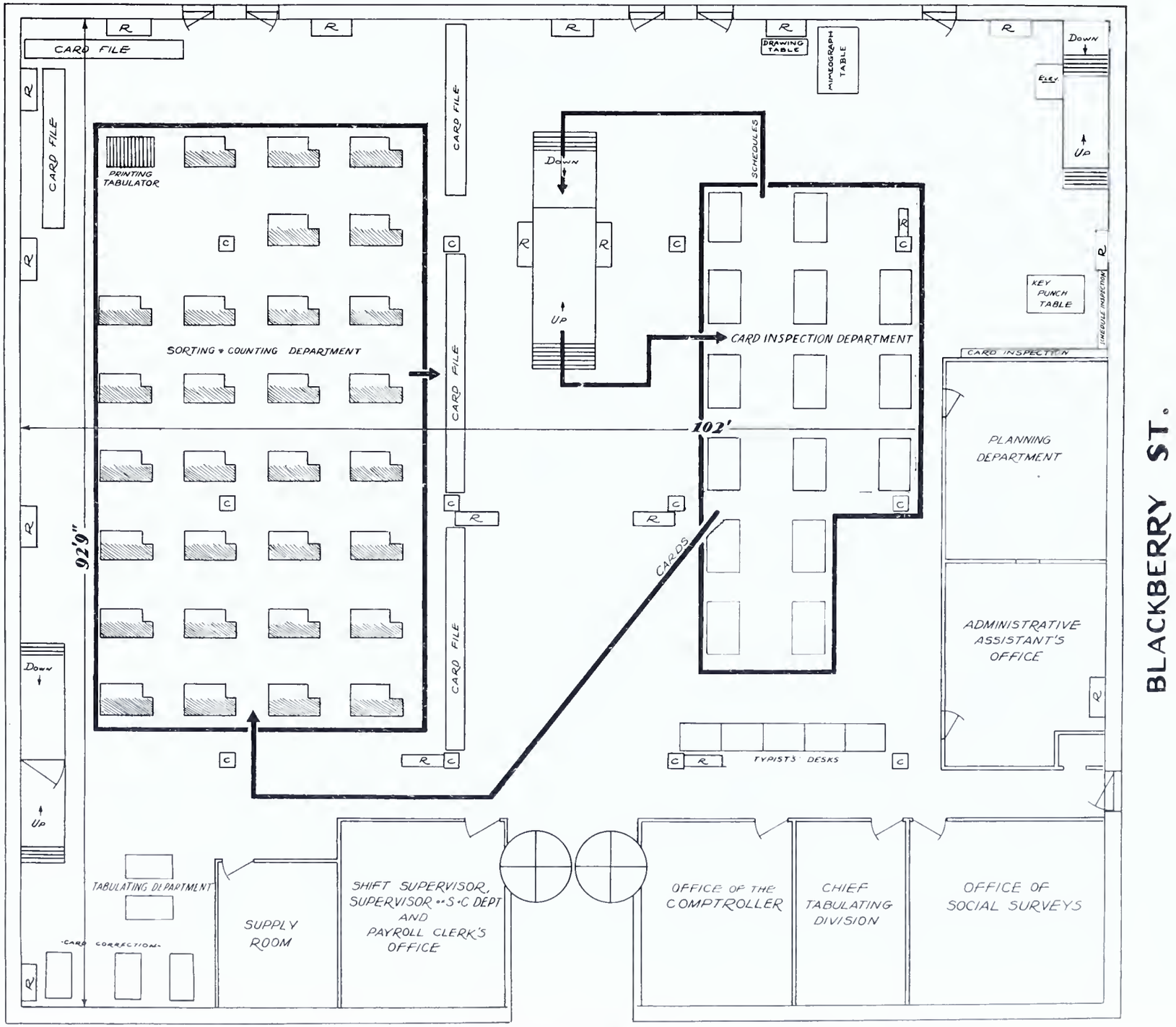
Information of a like nature was given for each of the eighty columns of the card.

Details on Production.

No production reports were compiled for the first few weeks after the Sorting Department was organized, since the Department was largely concerned with the problem of training inexperienced operators and in making check runs. Average daily production at this time is 1,407,429 cards, or an average daily production per shift of 469,143 cards, - an estimated increase of about 200,000 cards per shift over production during the first three months.

The sorting machines are capable of sorting 365 cards a minute, - a possible production of 21,900 cards per machine per hour, or 438,000 per hour for the twenty machines, or 9,350,000 cards per 22½ hr. day, the difference in the total possible production and actual production represents

# PLAN OF FIRST FLOOR – FLOW DIAGRAM



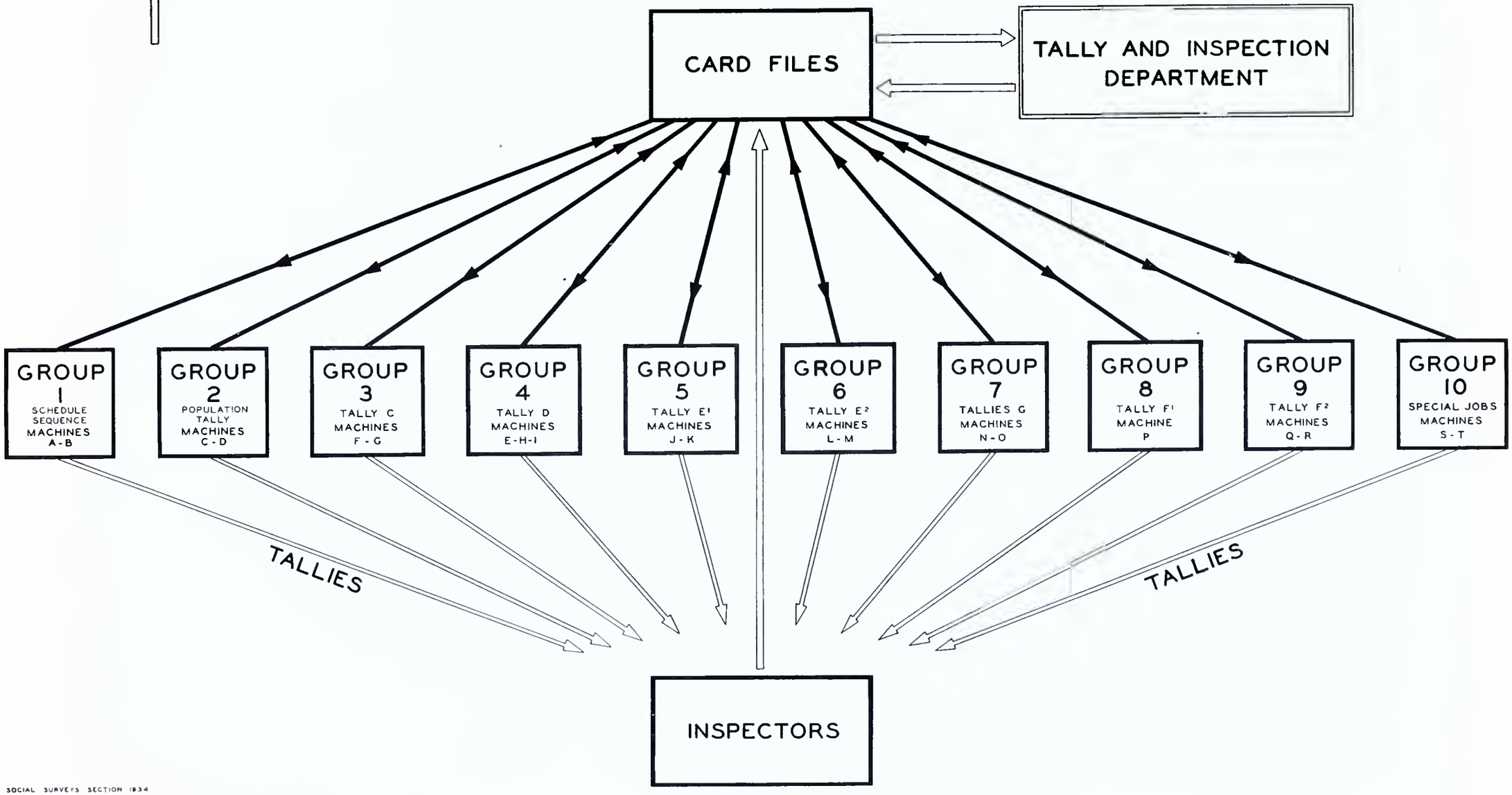
the time taken to compile tallies. Tallies numbered "D" - "E-1" - "F-1" - "G-2" - "G-3" - "G-4" - "P-1" - "P-2" and "Q" are comparatively slow and require considerable time.

Had it been possible at the beginning of the survey to know just in exact detail how the information was to be tabulated, we could have designated one column for "area" and eliminated considerable work in the Sorting Department in the running of the Philadelphia cards, for it was decided to run Philadelphia by area, dividing the city into ten school districts, cut across census tracts it required considerable sorting and needling to place the cards in area order. After the cards were so placed, the operator had no direct way of knowing the area in which they belonged.

The Sorting Department, through the use of a tabulating punch, supplied the Bureau of Rehabilitation with the names and addresses of unemployed workers in Philadelphia previously employed and not seeking work because of disabilities. When the F-2 (Reasons For Not Seeking Work) tally was completed for Philadelphia, all cards showing physical disabilities serious enough to remove the persons from the labor market were sorted into district and schedule sequence and run on the tabulating printer. These printed tapes were then sent to the schedule file for the names and addresses of these persons.

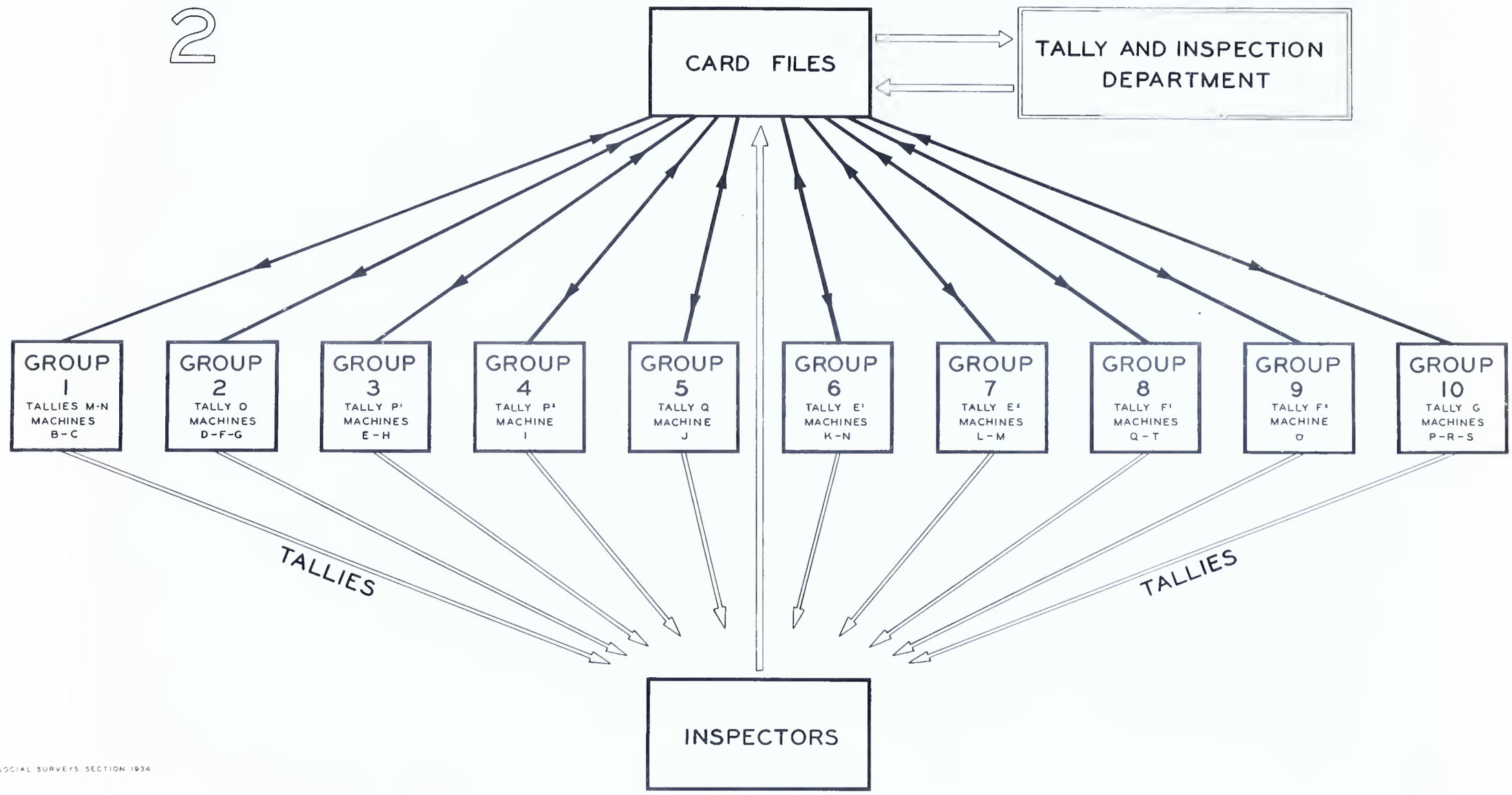
As a means of checking the accuracy of the work of the sorting operators, two inspectors were added to each section. Subsequently the major checking was turned over to the Tally and Inspection Department. By using a series of tables they were able to cross check each of the several tallies compiled with previous tallies. When found to be correct the tallies were returned to the Sorting Department and filed until the county was completed. The cards were then issued for the next tally and the same procedure followed as described above.

# FLOW OF WORK WITHIN THE SORTING DEPARTMENT




SOCIAL SURVEYS SECTION 1934

# FLOW OF WORK WITHIN THE SORTING DEPARTMENT

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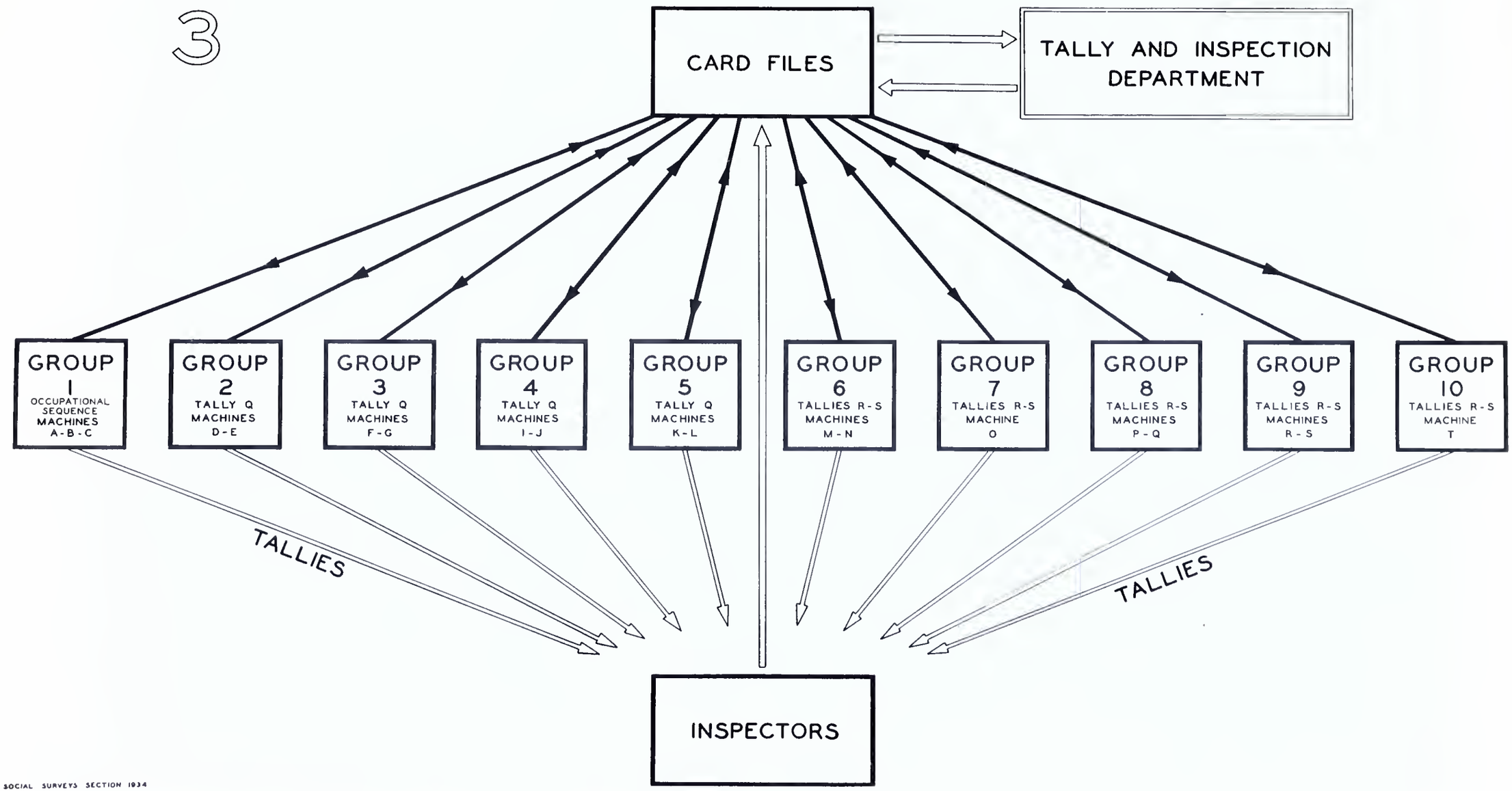



SOCIAL SURVEYS SECTION 1934

After a series of experiments it was found that production could be increased and many of the errors eliminated if line production were used in compiling the sets of tallies instead of having one operator compiling a complete set of tallies. The cards were routed from machine to machine, a tally being prepared at each stage of the process. A more accurate production was now obtained with twenty machines than was obtained with twenty-nine under the old plan.

The percentage of sorting errors has been greatly reduced in the Sorting Department. In July we averaged 58,147 cards per shift on re-runs. The first six days of December we averaged 4,942 cards per shift. Inspectors of the Sorting Department and members of the Tally and Inspection Department report errors in about 3% of the tallies compiled. A large part of these are found in checking the "D", "E-1", and "F-1" tallies. At least one half of the errors are due to carelessness, such as adding in sub-totals, failing to show the date, the shift, or the operator's number, etc.

## TALLY AND INSPECTION DEPARTMENT

### Function

After being sorted, counted and filed, the Hollerith cards were ready for the series of breakdown runs which were to divide and sub-divide all enumerated persons into predetermined classifications. At this time the Tally and Inspection Department was organized to perform a double function:

(a) Inspection: As the cards for each township, ward or district are broken into the various classifications by the Sorting and Counting Department, the count for each classification is recorded on the proper tally sheets, and the tallies delivered to the Tally and Inspection Department. This department then inspects and checks these tallies for form, complete-

ness and balance, before accepting them for recapitulation.

(b) Recapitulation: This function of the Department consists in the condensing and transposing of the various township, ward and district tallies into similar tallies for cities, counties as a whole, or for the entire State. As recapitulation tallies are completed for the desired political sub-division (usually a county) these groups of tallies are delivered to the Tabulating Department.

In addition to the above, the department has been assigned, from time to time, the recapitulation of data from various other sources.

Organization

The department consists of three sections, each section working an eight-hour shift under the direction of its section supervisor. A department general supervisor and an assistant general supervisor plan and direct the work of the staff as a whole, maintaining coordination of effort between the three sections and between this department and the adjacent Sorting and Tabulating Departments.

Each section, consisting of 12 adding machine operators, is normally divided into an inspection group of four and two recapitulation groups of four each, one operator in each group being designated as group leader and checker. Operators in each group are instructed, as far as practicable, in all types of work to be done in the department, so as to provide sufficient flexibility to handle fluctuations in volume of the different work received.

Methodology

Unemployment tallies as received in the initial series of sorting runs consisted of township, ward, or district tallies of (1) population (total enumerated) and number of persons per household; (2) C tallies for each of a maximum 15 classifications of employment status, sub-divided as to

sex and nativity;(3)D tallies for a possible maximum of 150 distinct combinations of employment status, sex and nativity listed by age;(4)E-1 tallies for each sex,in full time, part time and odd job employment,listed by wage and by age groups;(5)F-1 tallies for each nativity classification,with full time,part time and odd job workers listed by wage; (6)E-2 tallies for unemployed classifications,showing duration of unemployment; and (7)F-2 tallies showing unemployed persons not seeking work, classified as to whether previously employed, and listed by reason for not seeking employment.

Since a complete set of tallies for any district, township or other unit must include each enumerated person on at least two of the above types of tally, it is possible to eliminate all sorting errors by comparing the resulting tallies in pairs.This procedure is facilitated by the use of file tallies, on which the inspection group records comparable counts from each of the various tallies.The method of comparison,and the file tally forms on which compared figures are listed, are as follows:

(1) Population tally vs. C tally: Total persons enumerated must check (File tally A-1)

(2)C tally vs.D tally:Totals for each sex,nativity and employment status(up to 150 subdivisions)must check.Grand totals must check.(FileTallyA2)

(3) D tally vs. E-1 tally: Totals for each age group must check, in each of the three employed classifications, in each sex. (File tally A-3)

(4) E-1 tally vs. F-1 tally: Totals of each wage group must check,in each of three employment classifications.

(5) E-2 tally vs. C tally: Totals for each of nine classifications of unemployment must check. (File tally A-1)

(6) F-2 tally vs. C tally: Totals for three classifications of unemployed-not seeking work, must check. (File tally A-1)

(7) File tally check:Comparable totals on all file tallies must check.

When tallies for any sub-division fail to check in accordance with the above, such tallies as involve discrepancies are returned to the Sorting and Counting Department for rerun and correction, after which they are again inspected by the T & I inspection group. When the tallies are found correct, the file tallies are revised to conform and filed, while the tallies are returned to the Sorting and Counting Department until such time as tallies for all sub-divisions of a county are completed and checked.

When all tallies for a given county are complete, they are received by the T & I department for recapitulation by county, or by such other unit as may be required by the Tabulating Department. The recapitulation groups segregate all tallies by employment status, sex, and nativity, condense the data on each group of tallies, and record the resultant totals for the county (or other unit) on a recapitulation form similar to the tallies. All comparable items and totals are then recorded on recapitulation file tallies (Forms A-1, A-2, A-3, and A-6) and checked for agreement. If all comparable totals agree, all original and recapitulation tally sheets are made available to the Tabulating Department; while the file tallies are filed for reference.

When recapitulation sheets indicate a discrepancy (as shown by recap file tallies), the group of tallies are returned to the group checker for recheck of the recapitulation. An additional check on any total or subtotal is available through combining the sub-division file tally figures for the item in question.

Accuracy of original and recapitulation tally sheets is enforced by the use of file tally sheets as outlined above, and by the interdependent nature of classification totals as presented on the various types of tallies. The accuracy of the figures presented on any tally is further insured by adding all figures both horizontally and vertically on each sheet, and

striking frequent sub-totals. This latter, in conjunction with the original and recapitulation file tallies, greatly facilitates the isolation and correction of errors. Recapitulation of tallies with comparable totals and sub-totals are accomplished by different operators and with an intervening time period, so that all such sub-totals and totals must be obtained independently. Recapitulation tallies are checked against the component tallies by the group leader, while the recapitulation file tallies are posted and inspected by the section supervisor in charge.

These safeguards have enabled the department to compile county recapitulation tallies which present correct totals for all classifications involved.

Personnel

Since the Tally and Inspection Department was in the process of organization as the Coding, Key Punching and Card Inspection Departments were completing their work, a group of operators, and supervisors, of known ability and attitude were made available to this new department. This nucleus of selected workers, already acquainted with the procedure of related departments, the quality of performance required, and with each other contributed materially to the rapid development of a good departmental morale.

Production

The initial county recapitulations prepared by the department revealed the necessity for a detailed checking system, and for a means of segregating and locating errors in sorting and in recapitulation. The system of cross-checking previously outlined was then devised, and new tally forms were designed for D.E. and F tallies. In the new tally forms care was taken to avoid crowding of entries, so as to minimize misreading by operators. As soon as the revised system was in effect, an immediate reduction was noted

in the number of recapitulation discrepancies; such errors as occurred were located and corrected with comparatively little difficulty; and sorting errors were eliminated from the recapitulation process. The results were increased confidence and accuracy of operators, smoother flow of work and increased production. Preliminary checking of tallies by the inspection group, previous to recapitulation, eliminated approximately eight per cent errors in tallies received for recapitulation.

Departmental production, to date, is as follows:

C Tally - Employment Status by Sex and Nativity completed for all counties.

D Tally - Employment Status by Age, Sex and nativity, complete for all counties and for the State as a whole.

E-1 Tally - Wages by Sex and Age, completed for all counties.

F-1 Tally - Wages by Nativity completed for all counties.

E-2 Tally - Date of Losing Last Regular Job, complete for all counties.

F-2 Tally - Reasons for Unemployed Not Seeking Work, complete for all counties.

## REPORT OF TABULATING DEPARTMENT

### Function

The Tabulating Department was planned as an integral part of the organization in January, 1934. However, it was decided not to organize this unit until after the coding was completed, at which time the released coders could be utilized in the tabulating unit. On Friday, July 13, 1934, the department was organized to prepare statistical tables based upon information gathered during the Unemployment Survey. This information was available in

the form of tallies prepared by the Sorting Department, which had been checked by the Tally and Inspection Department. It was the duty of the Tabulating Department to assemble this material from thousands of sheets, and to group and arrange it in such a compact form that any information could be easily and quickly secured for reports, research, or publication.

Method of Work

Standard tables were planned, drawn up, and printed, allowing for the grouping of special types of information on special tables such as: Wages by Sex and Age, Nativity and Sex by Employment Status, etc.

A clerk and a typist worked at each table. The clerk, selecting the tallies containing the desired information for a certain table, would call out the figures, and the typist typed them in the proper column. When the typing was done, the columns had to be totalled and percentages worked out so that each table could be checked and balanced against another table, thus securing absolute accuracy. The method used resembles the course followed in double entry bookkeeping.

Organization and Development

The Department was organized with a general supervisor, nine clerks, and nine typists. The clerks and typists working in pairs, were divided into three shifts - 7:15 A.M. to 12:15 P.M., 12:15 P.M. to 5:15 P.M., 5:15 P.M. to 11:15 P.M.; the last shift worked six hours so that they might have Saturday afternoon free. Later, eight hour shifts were arranged, allowing one half hour for lunch. These ran from 7 A.M. to 3 P.M., 3 P.M. to 11 P.M., and 11 P.M. to 7 A.M.

Two weeks after the department was organized a supervisor was placed over each shift to plan and direct the work. Since each pair of workers was posting a different set of statistics which had to be checked by other workers, and since the jobs varied in length and degree of difficulty, it

was quite necessary for the supervisor to always have new work planned and ready to put out at any moment. The general supervisor laid out the plans for the whole department and coordinated the work of the three shifts.

As time went on, more clerks and typists were added until the total reached twenty-eight.

Pine tables, formerly used by the coding department, were arranged as desks. Typewriters, adding machines, and Monroe calculators were placed on each table. This completed the equipment, except for the forms which had to be drawn up from time to time to meet new requirements in tabulation.

At first, the typists of this department, in addition to their regular work, cut all of the stencils for the mimeograph so that the first bulletins could be published. Later, this work was taken over by the Publishing Department, which allowed the typists to devote their full time to tabulating.

In the beginning the Tally and Inspection Department made recaps for counties only, and the Tabulating Department recapped cities and groups of second and third class townships. This consumed so much of the time needed for tabulating, that it was found necessary to return all work needing recapitulation to the Tally and Inspection Department.

No basic changes were made in the organization of this department since its inception.

Selecting and Training Personnel

When this department was organized, clerks and typists who had worked in other departments were transferred to the Tabulating Department. Most of these people were somewhat familiar with the work in general, in addition to their own particular duties This made it easier to train them in the special work which we required. As a whole, the clerks proved most satisfactory, but the typists were very inexperienced and many had to be trained. Both clerks and typists had to be instructed on how to compute Median Wages, how

to use a calculator,and many had to be taught how to use an adding machine. In addition to this, each worker had to become familiar with twenty different sets of tallies, each set being subdivided into political subdivisions, and each political subdivision being split up into employment statuses.

There was a constant turnover in personnel, due to transfers to other departments, to people finding regular jobs, and a few to dismissals for inefficiency. Of the thirty-one people now in the department, only eight have been with it since its beginning. Naturally this has meant a constant training of new workers and has slowed up production to some extent.

Details of Production

A problem arose when tabulation began as to what classes of people should be considered as employables. After a study of the data on hand,the following definition was considered the best for our purposes - "Employables are persons who are either working for money or its equivalent,or are attempting to get work which will yield them money or its equivalent. This class, however, does not include those persons who are working because of personal or social obligations for some non-pecuniary reward (e. g. nuns, housewives, students, monks, volunteer social workers, etc.) and does include persons who are temporarily not at work because of labor disputes." As a result we included the following classes as employables:

1. Full-time workers.
2. Part-time and odd job workers.
3. Unemployed - previously employed - seeking work.
4. Unemployed - previously employed - unspecified as to seeking work.
5. Unemployed - unspecified as to previous employment - seeking work.
6. Unemployed - unspecified as to previous employment - unspecified as to seeking work.
7. Unemployed - not previously employed - seeking work.

This placed in the non-employable class people not seeking work because of private income, physical disability, etc.

It was decided to put odd job workers and part time workers in the same category since it was almost impossible to draw a clear cut distinction between them from the information available on the schedules.

Unspecified sex was classed with males in the tables.

A set of tables was prepared for each county of the State. These were known as Summary Tables, and from them were secured the tables used in the Preliminary Reports for each county. The Summary Tables gave the following information for each borough and township:

Table 1. Employables by Employment Status (Full Time, Part Time, Unemployed).

Table 2. Full Time, Part Time, and Odd Jobs by Sex.

Table 3. Unemployed Workers, Seeking Work, by Sex.

Table 4. Full Time and Part Time Workers, by Nativity.

Table 5. Unemployed Workers, (Previously Employed and Not Previously Employed), Seeking Work, by Nativity.

Table 6. Employables by Sex and Nativity.

Table 7. Employables by Sex, Nativity and Employment Status.

A set of tables for each county, known as Master Tables, was made for permanent filing records. They gave the following information.

Table 1. Nativity, Sex, and Political Subdivision for Full Time; Part Time; Odd Jobs; Unemployed, Previously Employed, Seeking Work; Unemployed, Not Previously Employed, Seeking Work; Unemployed, Previously Employed, Not Seeking Work; Unemployed, Not Previously Employed, Not Seeking Work; Unemployable Heads; Unspecified.

Table 2. Nativity, Sex, Age, and Political Subdivision by the same employment status as in Table 1.

Table 3. Wages by Sex and Age for each political subdivision.

Table 4. Wages by Nativity for each political subdivision.

Table 5. Duration of Unemployment.

Table 6. Reasons for Not Seeking Work.

Table 7. Date Losing Last Regular Job.

In addition to these regular tables, many special reports have been tabulated such as -

1. C. E. R. B. Personnel Classification.

2. Social Survey Personnel Classification.

3. Industry by Employment Status, Sex and Occupation.

4. Industry by Employment Status, Sex, Nativity, Age and Occupation.

5. Number of Families and Number of Additional Families in Certain Communities.

6. Population of all boroughs and cities of the State, comparing the 1930 census figures with the 1934 Unemployment Survey figures.

TABULATING DEPARTMENT

WORK COMPLETED

| | No. of Reports completed | No. of Tables completed |
|---|---|---|
| SUMMARY TABLES | 68 | 610 |
| BULLETIN TABLES | 68 | 408 |
| MASTER TABLES | 33 | 6,314* |
| SPECIAL REPORTS | 8 | 76 |
| TOTAL | 177 | 7,408 |

*Approximately 3,000 sheets.

Dec. 31, 1934.

## RESEARCH AND PLANNING DEPARTMENT

### Function

The research and planning group has three functions:

1. Coordination: The coordination of the work of the various departments to insure the completion of work according to a planned production schedule.

2. Research and Statistical: The preparation of reports, bulletins, tables, etc. and the analysis of the data. The gathering of the material from other sources whenever desirable.

3. Planning: The drafting of instructions, codes, reports, etc., and the design of schedules, tables, cards, etc.

### Organization and Personnel

The research and planning group consists of about ten persons loosely organized so as to facilitate changes in organizational pattern to conform with the type of job being done. Three divisions within the group can, however, be distinguished, each of them specializing in one of the phases of the work mentioned under "Function." The coordination work is handled by a research worker with the assistance of supervisors of the Archives Department. The Research and Statistical work is performed by three full-time workers assisted by statistical clerks while the planning functions are performed jointly by a research clerk and a designing and drafting department, both reporting to a research worker.

The department as a whole has no department supervisor but reports directly to an administrative assistant.

### Production

Since the department is not organized on a routine production basis, except for the preparation of supporting text for reports and new releases, the easiest way to present the work of the department is by sketching in brief some of the jobs undertaken.

1. A Proposed Survey of Industry

It was felt that an investigation of industry which could discover the number and characteristics of the persons employed, the types of machinery used, the material used, and the processes involved would, in conjunction with the Unemployment Census provide an excellent measure of the State's potentialities in the field of production. Schedules were designed, instructions drafted, and the necessary preliminary work outlined. Such a survey it was estimated would provide work for a number of skilled technicians who badly needed it.

2. A Proposed Survey of "Company Towns"

Because of the lack of trustworthy sources of material, it has been next to impossible to intelligently discuss the "Company Town." Some material was gathered by the area supervisors during the Unemployment Census but the organization felt that an intensive survey of selected company towns would constitute a contribution to sociology of considerable importance. Schedules were designed, considerable research was done to find out what published information was available and what legislation had bearing on the problem. It was hoped that the problem could simultaneously be investigated extensively by means of schedules and intensively by "free lance" investigators.

3. A Proposed Survey of Relief Employables

Although other agencies have completed similar surveys, the need for information about the State's relief load is still not sufficiently detailed. A schedule was designed for use by relief visitors.

4. A Comparison of Industrial and Occupational Classifications

Difficulties with our own coding keys led to a study of other codes and classification schemes. Much of this has been done but it is recommended that further attention be given to the problem. The Research Workers

presented these reports before a committee chosen from Archives and other departments for discussion.

5. Design of Master Tables

A type of master table has been designed which combines some graphic analysis with the presentation of the basic data. Some of these are now being used by the Tabulating Department.

6. Occupational Distribution of Relief Employables

With the aid of the Tally and Inspection Department the data sent to the Planning Unit by the Reemployment Offices was summarized for the State and compared with the Occupational Distribution of all Employables for 1930.

7. Releases

Outlines have been prepared for a series of new releases and bulletins. In addition, text was prepared for the sixty-seven county releases in conjunction with the Archives Department.

8. Proposed Sorting Runs

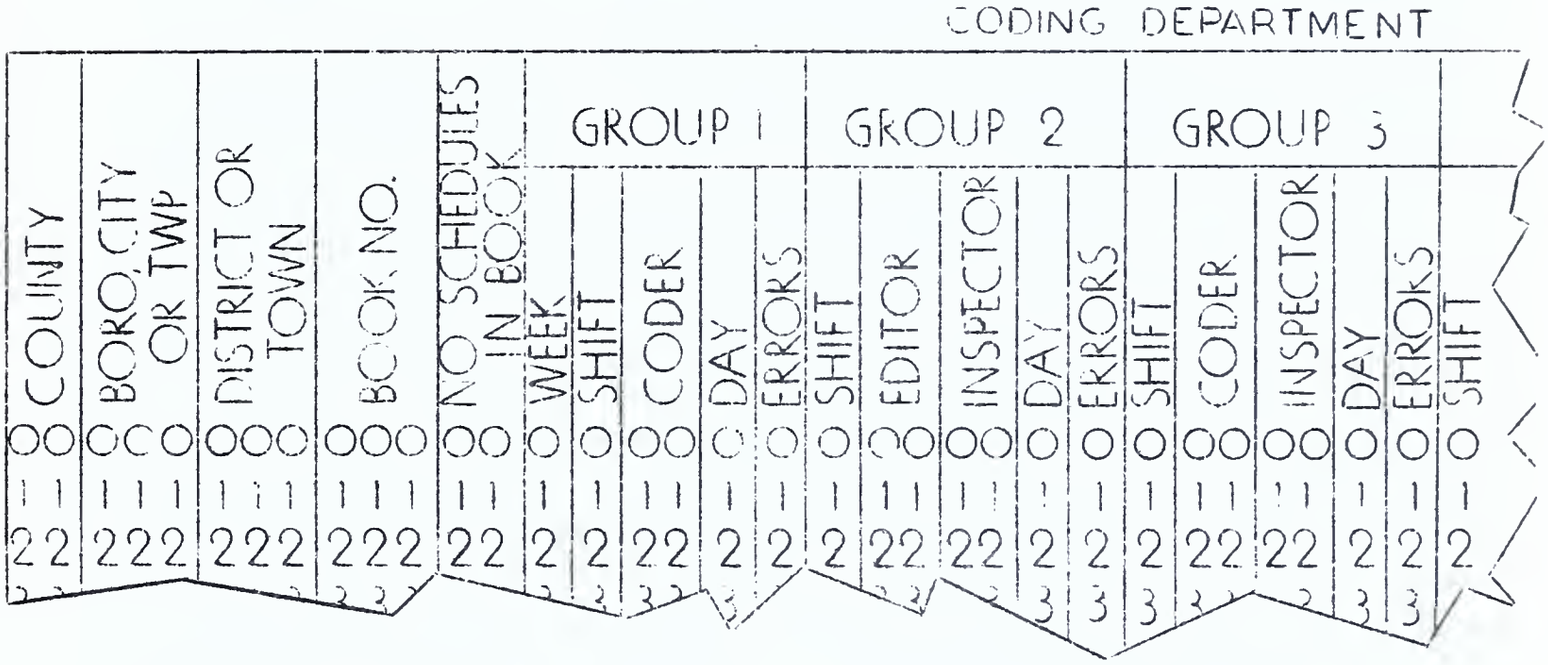
Plans have been drawn up for a series of sorting runs and proposed tally forms submitted. From time to time, flow charts and instructions have been prepared for use in training operators.

9. Production Control

Production records were kept from the very beginning of the organization. About the middle of June, a barometer and a wet-and-dry-bulb thermometer were obtained and thereafter accurate records of temperature, humidity and atmospheric pressure were made at stated intervals throughout the work day.

A mimeographed form was attached to the back of each schedule book and as the information was coded by the various groups, key-punched, etc., the clerk or operator entered his identification on it. This was in turn punch-

ed on Hollerith cards. The combination of production and temperature - humidity records opens up an interesting study in Production Control. A section of the card follows:




10. Personnel Studies

Studies of data derived from punched personnel cards tabulated by the Tabulating Department have been begun.

11. Voting Machine

A standard voting machine* was installed on June 25th in order to determine whether it might be effectively used in the tabulation of statistical data. In order to prepare the machine for such use all the lock-pins were withdrawn, thus making it possible for the operator to make use of every lever on the board in any desired combination. The original task assigned was the tabulation of unemployables in Philadelphia by district.

The board was prepared exactly as shown in the accompanying photograph and we were able to tabulate population by sex, age and nativity at the same time. Special groupings of ages were, of course, necessary. As each district was completed readings were taken and the board cleared for the next dis-

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* Manufactured by the Automatic Voting Machine Company of Jamestown, N.Y., and loaned by them without cost.

trict.

In four months approximately fifty years of normal service were put on the machine. A test run was then conducted and the result checked exactly with that submitted by the Sorting and Counting Section. The machine was unquestionably reliable and well adapted for many types of tabulation as subsequent experience has satisfactorily demonstrated.

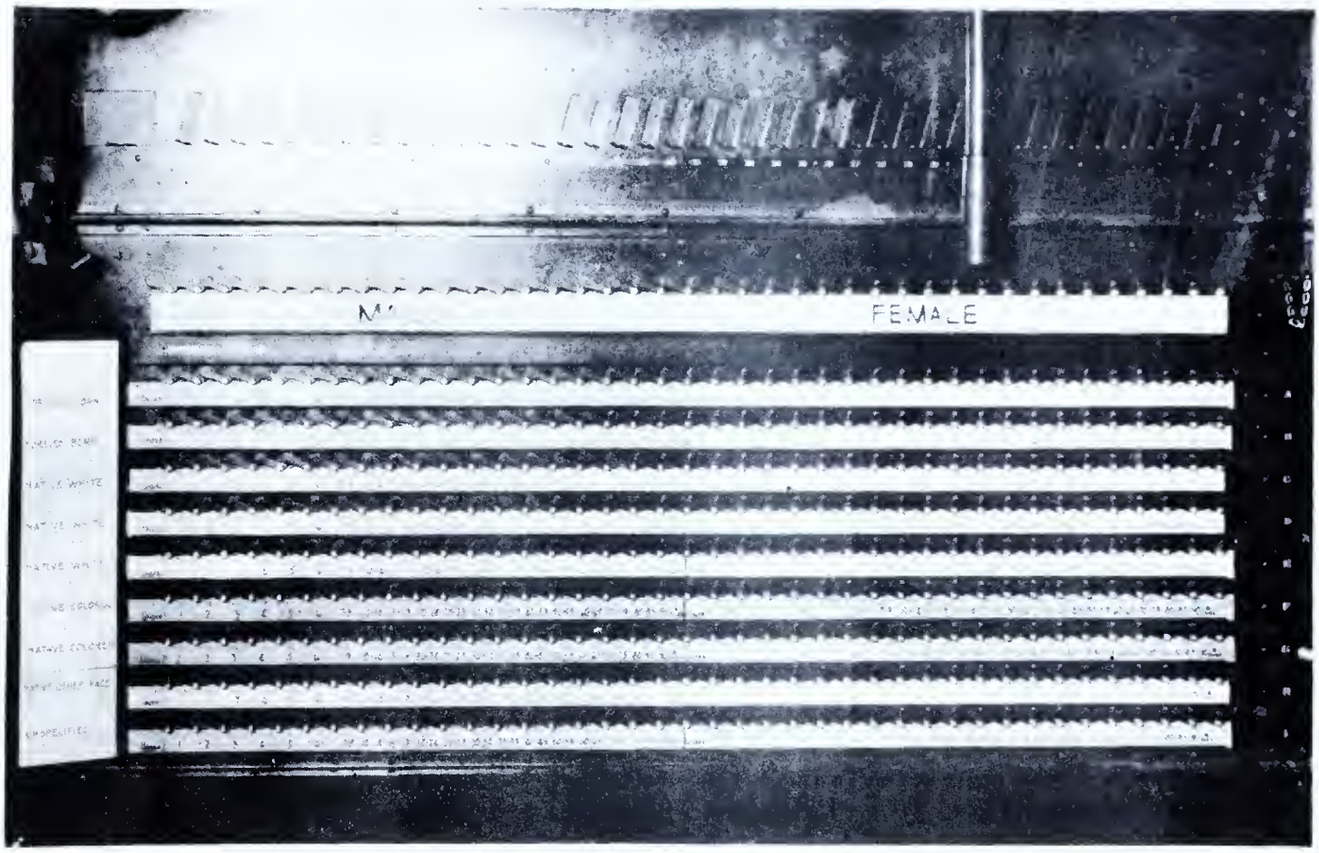
It was then decided to use the voting machine as a check to determine the correctness of the tabulation when the sorting count did not correspond with the hand count made by the Archives Section. It was probably the most accurate method of tabulation used as the data was computed directly from the schedule, the only chance for error being the human element as represented by the operator. However, tabulation by voting machine proceeds at a slow pace compared to the rapidity of a machine count. Therefore the use of this machine was confined entirely to checking and to those jobs requiring as nearly perfect tabulation as was possible, the accuracy justifying the additional labor cost involved. At the present time a count of children of school age (fourteen years of age and under) is being run for certain school districts. Here again the schedules obtained during the taking of the 1934 Social Survey Unemployment Census are being used as the base.

Production averaged 1500 schedules per day on the tabulation of unemployables and 650 schedules per day on the tabulation of population.

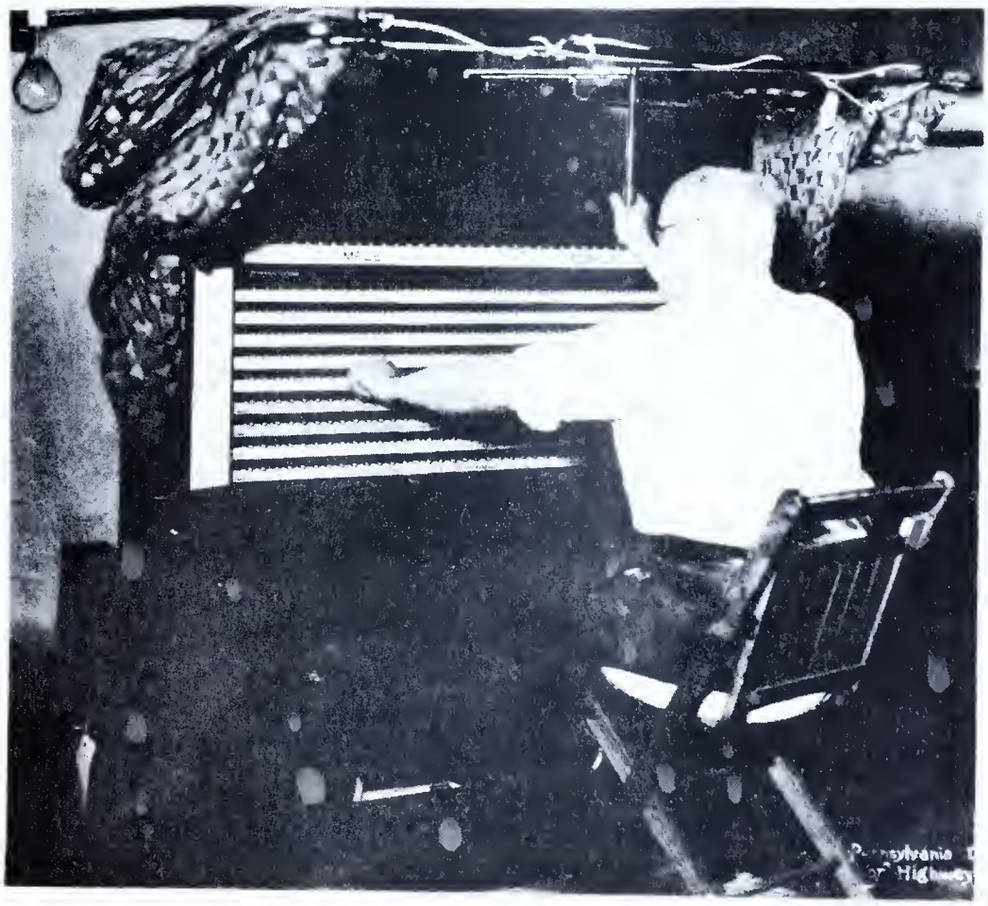
The voting machine has helped the Research and Planning Department immensely in certifying as to the accuracy of the Social Surveys Unemployment Survey data which was used or filed away for future reference.

Social Surveys believe that the voting machine or some modification of it presents real possibilities as a means for tabulating small groups of data customarily handled by rather laborious hand tabulation methods.

THE BOARD OF THE MACHINE
PREPARED FOR TABULATION




THE AUTOMATIC VOTING MACHINE



## PUBLISHING DEPARTMENT

### Function in Relation to Other Departments

The function of this department is to publish preliminary and summary bulletins on unemployment in the State, the Unemployment Relief Digest, special reports, and to provide tallies, code lists, instructions, etc., to every department in the Social Surveys.

### Method

As the work is sent in from the other departments it is sorted as to its importance and given a place on the schedule of jobs to be done. The two major tasks performed by the department have been publication of the sixty-eight County Bulletins and the twelve copies of the Digest which had to be published at regular intervals on certain predetermined dates. This method of production has proved so satisfactory that an attempt is made to work out an advance schedule of operations for all jobs.

The work proceeds smoothly from one operation to the next-from typing to proofreading to mimeographing or multilithing, to assembling, to distributing or mailing. The only point of congestion occurs in the assembling. This is relieved by using the men from the Voting machine, which is under the same supervision as this department. Extra men are also kept on call for such emergencies.

Where obvious errors appear in the rough drafts they are corrected without further check. Where there is any doubt as to the authenticity of a statement or as to the shade of meaning in the text, it is immediately questioned and sent back to the author for corroboration.

### Plan of Organization and Development

When the Tabulating Division of the Social Surveys started work in the Doehne Building in January, 1934, one hand-operated mimeograph was sufficient

to meet the demand for copies of instructions, tallies, etc. The machine was operated by the messenger on duty under the direction of the Chief Messenger. When the press of work demanded it, a regular operator was assigned to the machine.

Instructions, tallies, reports, etc. were at that time being typed and stenciled by a group of typists under the Comptroller. Each supervisor brought his work to this group or else had it typed by some person in his own department. The natural result of this was a wide variety in the appearance of the work and a constant mixup at the mimeograph.

When the Social Surveys moved to the State Museum Building the publishing Department was formed. Since then these functions have been performed in addition to the publication of reports. The result is a standard type of tally, report, etc. and a greater coordination, enabling each department to carry on its work without hindrance of lack of such material.

As the volume of work increased, additional members have been added to the department. Several typists are kept on call to assist in emergency work.

The department is indebted to the secretaries of the Assistant Director and the Administrative Assistant. They have cheerfully assisted us many times regardless of the hours of work.

The mailing of the Bulletins and Digests was at first handled by the Archives but has recently been taken over by this department because of the closer relationship between publishing and mailing.

SELECTING AND TRAINING OF PERSONNEL

Employees were selected after tests as to their adaptability to handle the type of work done in this department.

When the department was first organized it was a problem to secure good typists for stencil cutting. Stencils require an even touch. If the

touch be too heavy, figures and letters are completely punched out, and if the touch be too light, the result is uneven inking. This was entirely overcome after a little experimentation. We found that we were able to patch seemingly ruined stencils Entire sections of a stencil could be cut out and new pieces cemented on without the slightest trace of the repair in the finished work. The repaired stencils were found to last as long as new ones. After receiving a mimeoscope and various types of styli we were able to touch up stencils which had been typed too lightly in spots. We were thus able to cut down considerably on the time per finsihed stencil and the cost of the finished work.

When a Multilith was installed early in November we again experienced a great deal of difficulty with the typists. They had by this time acquired a fairly uniform, firm stroke. Multilith plates call for an extremely light touch. The plates are made of zinc, finely grained and very thin. If the typist strikes too heavily the plate is "embossed" leaving a peculiar double impression.

If the plate is uniformly light in touch the impression can be strengthened by allowing the machine to run for a few minutes with the ink-rollers in contact. There was considerable difficulty at first in making corrections on the plates; the old image persisted even after erasure. We were advised to experiment with various solvents and found that pure benzol fitted our requirements exactly. However, we are still not able to use a plate as often as we desire.

Details of Production

Beginning with Digest No.8, Volume 1, straight right-hand margins have been required. This means that the work must be typed twice before being transferred to the Multilith plates consuming a correspondingly greater amount of time. The Multilithing Process also uses considerably more time

than mimeographing had required. It is true that the Multilith can turn out as many copies per minute on a straight, long run, but it takes much longer to treat the plate with the proper solutions, attach it and adjust it than does the mimeograph stencil. Multilith plates may be typed, drawn, etched or photographed thus allowing a much greater flexibility of use than a stencil. A plate may be used several times, but each succeeding time it is used it becomes increasingly difficult to proofread and to kill the image of the preceding runs effectively. The Multilith machine itself, although harder to operate than a mimeograph, is comparatively simple, requiring very little attention once the proper adjustments have been made.

Late in October the department was asked to collect all stencils used since the beginning of the Survey, arrange them according to department, assign code numbers and install an efficient filing system. This was a long, unpleasant job since we were working with used stencils. Many of them were so old that they had to be replaced. When the stencil file was complete we made up five master indexes which are brought up to date weekly. There are eleven hundred and fifty-six stencils, with twenty-five mimeographed copies of each, filed according to the same code. A great many of these are, of course, obsolete now. We have made up several master sets of instructions, tallies, etc. which give a complete graphic picture of the development of the Survey.

The preliminary county bulletins, with a hundred copies of each, are filed separately. The Unemployment Relief Digest is treated similarly. Including the bulletins and Digests there are nineteen hundred and thirty-four stencils on file.

## ARCHIVES DEPARTMENT

### Purpose

The Archives was formed as a department of the Social Surveys on May 21, 1934. The object was to establish a depository for the safe keeping of all data and records of the field surveys and the tabulated data obtained from these records. To keep abreast of developments in Unemployment, Relief and the Social Sciences, the division set up correspondence and exchange of publications with various departments of the Pennsylvania State Government, the neighboring States, the Federal Government, colleges and universities, and any private organizations that were conducting surveys, investigations or statistics bearing on these subjects.

### The Unemployment Survey

The field records of the Unemployment Survey were already in the files when the Archives Division was formed. Although the data on the Philadelphia and Allegheny County schedules had been coded and transferred to Hollerith cards, it was found necessary to refer to the original schedules as the sorting, counting and tabulating work progressed. The Schedule files were set up so that these schedules were in proper sequence by district and political subdivision. The schedules from the Unemployment Survey in the other 65 counties of the State, conducted in April, 1934, were placed in the files in proper order by political subdivisions as fast as they were turned over by the Coding Department. The number of schedules turned over to the Archives files exceeded 2,000,000. To place these schedules in order, properly classified and check with field reports and with the sorting and counting department, made it necessary to build up a personnel of 24 file clerks, 2 assistant supervisors and 1 general supervisor.

Area Reports

The Reports from the area supervisors contained valuable data as to the number of schedules obtained in each county and the field costs.

The preliminary tallies of the Sorting and Counting Division were compared with these field reports from the area supervisors.For some districts a hand tabulation of schedules and population was made by the schedule file clerks to obtain a cross check and comparison to eliminate all possible errors fromthe preliminary reports.

Data on the counties, cities, boroughs and towns were turned in by the area supervisors, and this department has furnished data on the political subdivisions when requested for reports.

Company Towns - One Industry Towns

During the period of field work in the Unemployment Census, it was apparent that some areas were suffering from unemployment to a greater extent than others. Some sections had been already considered as "blighted areas," in some cases caused by economic pressure on certain industries, especially in one industry towns. Of particular interest was the social, economic and employment condition of the employable population and the industry in "company towns." The area supervisors were instructed to obtain detailed information on this subject for their respective areas. The reports when sent in contained valuable data which has been used by other departments of the Relief Board, by the State Department of Labor and Industry and also by the Department of Sociology of Pennsylvania State College.

Human Interest Stories

The field staff of the Unemployment Census included approximately 13,000 enumerators,who were making persenal contact with every household in the State of Pennsylvania. These enumerators could obtain first hand inform-

ation and direct insight on the social conditions and personal problems confronted by the unemployed and part-time workers, engulfed in the maelstrom of changing economic forces. A bulletin was issued by the Assistant Director requesting each enumerator to turn in "Human Interest Stories." These stories could be humorous, pathetic, tragic, or just the monotonous daily struggle of the ordinary man and his family for existence. The enumerators were drawn from unemployment registration, practically all were on relief rolls and could relate their own human interest story and their reactions to this new field of work and its social contacts.

There were approximately 5,000 "Human Interest Stories" turned in by enumerators throughout the state. With such a volume of manuscript, the Administrative Staff in Harrisburg decided it would be necessary to edit this material so that it could be published in appropriate form. An editor was assigned to the task on April 30. The best stories have been edited and classified for publication, and the balance have been combined into a monograph and will be published as a second volume.

Library

A library was set up in the Archives Division on May 25, with a trained librarian. All books and publications on the Federal Census, reports of other State Departments, and records were catalogued and placed in the library. Correspondence was conducted to obtain from every possible source all gratis publications bearing on Social Sciences. An extensive bibliography on these subjects was prepared and sent in to the Administrative Staff with recommendations that they be purchased for the library. Lack of funds prevented this being carried out.

The work of obtaining free material has been continued. Through the offices of the Unemployment Relief Digest, the library has received twenty-five books, nine magazine subscriptions and two newspaper subscriptions. The

Archivist, Librarian, and sundry other persons interested in collecting a usable reference library help to gather material, which, after it is entered in the library, is made available to all Departments of the S.E.R.B. as are the services of the librarian. Twice a month a list of new library acquisitions is sent out to the various department heads and important publications are circulated to interested persons in the organization.

The library has been in constant use since its inception. The circulation records of July 1 - November 30 show a circulation of 763. The library's holdings to November 30 consists of 499 volumes. A conservative estimate of reference questions answered is 193. The statistical record of circulation, number of volumes, and reference questions, was started the 1st of July, a monthly summary report being published in the second fortnightly list every month.

A complete file of County, City, and Borough maps are kept on file in the library and used constantly for reference in connection with the work of the Social Surveys.

TABLE OF LIBRARY STATISTICS

JULY TO DECEMBER 1934

| | Library's Holdings Vols. | Library Circulation | Number of Reference Questions |
|---|---|---|---|
| July | 269 | 91 | 34 |
| Aug. | 309 | 116 | 16 |
| Sept. | 372 | 127 | 29 |
| Oct. | 459 | 208 | 33 |
| Nov. | 499 | 221 | 71 |
| Dec. | 596 | 200 | 157 |
| Total | 596 | 963 | 340 |

Social, Economic and Physical Data for the Civil Subdivisions

August 20, 1934, the Archives Division began to compile information concerning the 2564 civil subdivisions of Pennsylvania. This information

covers population and employables, types of communities, principal physical features, transportation and utilities, agriculture, industry and trade, also educational and miscellaneous types of institution.

Population and employables information was obtained from the 15th Census of the United States for 1930 and the 1934 figures from the Social Survey's Unemployment Census.

Information on types of communities was obtained from Social Survey sources.

Elevations and climatic information was obtained from topographical maps and the Weather Bureau.

Transportation and Utilities: Bus line information came the Public Service Commission and various bus line schedules; steam railroad information from the "National Railroad Guide" and maps; street railways information from the Public Service Commission. Highway data was taken from the State Highway Department's reports.

Utilities: Electric power and Gas Company information was supplied by the Public Service Commission. Telephone and Telegraph information was obtained from the Public Service Commission, the directories of the Bell Telephone Company and the tariff books of the Western Union and Postal Telegraph Companies.

Agriculture, Industry, and Trade: Agriculture data was taken from the 15th Census of the United States, 1930; industries, annual production values, and number of employees from the Seventh Industrial Directory. Banking data was obtained from the Pennsylvania Department of Banking. Wholesale and retail business information was compiled from the 15th Census of the United States 1930. Natural gas, crude oil, bituminous and anthracite mine reference material was given to us by the Pennsylvania Department of Internal Affairs.

Educational and Miscellaneous Types of Institutions: Information was obtained from bulletins issued by Pennsylvania Departments of Public Instruction and Welfare.

This reference material was compiled by research clerks of the Archives Division and transposed to special information sheets prepared for each civil subdivision in the State of Pennsylvania, said subdivisions divided as follows: 47 Cities, 939 Boroughs, 77 First Class Townships, 1501 Second Class Townships, making a total of 2564 divisions. This material was used constantly by various departments of the State Emergency Relief Board, and State Planning Board.

Mailing Lists

When the statistics obtained by the Unemployment Survey were compiled for the first county, Philadelphia, the Department of Research and Statistics desired to place the information before all interested persons. A mailing list was made up by the Archives Division by consulting directories of State Departments in Harrisburg, choosing only the interested parties, County Emergency Relief Executives, Directors of Emergency Relief in other States, Departments of Economics & Sociology in all major colleges, private institutions in Welfare Work, Federal Emergency Relief Administration, Bureau of Census, Dept. of Labor and others in Washington, libraries, business organizations, labor organizations, newspapers, publishers, and legislative representatives known to be interested in unemployment and relief problems. After four weeks, a circular letter was sent out to check this mailing list. The replies cut the original list of 1000 to approximately 800, but it slowly built up to about 1150 as additional requests came in.

Special Assignments

There have been special assignments to the Archives, such as the checking of industry coding in the Unemployment Survey, in Philadelphia County.

This was followed by the checking of occupation of employables in Philadelphia County. A regrouping of certain industries and occupations originally shown has been necessary for comparison with the statistics of the Federal Census of 1930.

# CHAPTER IV

# THE UNEMPLOYMENT RELIEF DIGEST

Purpose

The Unemployment Relief Digest was originated to aid the Administrators of the Pennsylvania State Emergency Relief Board to keep abreast of significant new ideas and developments in the fields related to unemployment relief. The method selected for the accomplishment of this purpose was the presentation, in compact form, of the substance of recently published material on this subject.

Content

The material covered by the Digest includes currently released books, magazines, newspapers, and bulletins.

The first eleven issues of the Digest contained material drawn from numerous issues of 52 magazines and 12 newspapers, and reviews of 16 books and 20 bulletins.

Progressive improvement of both content and appearance has been noticeable in successive issues. Each innovation adopted has become a part of the permanent policy of the publication. The first of these improvements, beginning in Digest #2, was the underscoring of the subject of each news item,making evident at a glance the topic of the whole paragraph without utilizing extra space for a heading. Digest #7 initiated a new department,"In My Opinion," carrying quotations of significance from the speeches or writings of prominent contemporaries. The use of the multilith process, introduced by Digest #8, permitted the use of both sides of the paper. The appearance of the publication was further improved in this issue by spacing the typing so as to form straight right margins. Digest #9 carried a Table of Contents. Digest #10 bore a decorative cover, book reviews separated from other reviews under their own heading, another new department containing biographical information about the authors of the books and articles

reviewed, and an acknowledgment of books received for review to be covered in subsequent issues.

Obtaining Material

Early issues of the Digest covered only those magazines and newspapers available in the State Library, free bulletins obtained by the Archives Department, and whatever other publications the members of the staff happened to have among their personal possessions.

The addition to the Editorial Department of an Assistant Editor (October 10, 1934) made possible the covering of magazines in the Harrisburg Public Library not available in the Pennsylvania State Library. Because they receive but a single copy of each publication, the Harrisburg Public Library refuses to lend periodicals even over night, whereas the administration of the State Library is more liberal in this respect.

The addition to the Editorial Department of a Secretary (part time since the beginning of November) made feasible the sending of form letters requesting publishers to furnish review copies. These requests have brought us 25 books, 14 magazine subscriptions, two newspaper subscriptions, and a number of pamphlets and sample copies of periodicals.

We have been seriously handicapped by having no money with which to buy books, periodicals, and newspapers. Inaccessibility of material deprives us of the services of many well-qualified, would-be contributors who do not have time to go to the libraries but who could find opportunities to write reviews if they were able to keep the material at hand.

We are most desirous of avoiding copyright infringement. Full credit and bibliographical reference material for each item are noted. The name of the author of each book or article reviewed follows the title. At the end of the article appear the initials of the reviewer.

Contributors

Assignments are made to individuals who have expressed their willingness to cooperate. The vast majority of articles and reviews appearing in the Digest are contributed by members of the Social Surveys organization. Recent issues have contained some items by members of other departments of the State Emergency Relief Board. Efforts are being made to enlist the services of experts in the fields related to our subject matter. Officials of various organizations requesting copies of the Digest have recently expressed their willingness to assist in this way.

Distribution

The Digest is issued semi-monthly, on the 3rd and the 17th.

The original issue (Volume I, Number 1, July 17, 1934) consisted of 50 copies. This issue has been re-run three times to meet requests for complete sets of the publication. (See Table for number of copies of each issue.) It was found expedient to run 500 copies of Volume I, Number 11 (release date -- December 17, 1934), in order to meet the increasing demand.

The permanent mailing list (December 17, Digest #11) calls for 225 copies which go to 206 different addresses, the other 19 being duplicate copies requested for filing, binding, etc. The temporary mailing list (which changes with each issue) averages approximately 40 copies, the majority of which are sent to publishers and authors of material covered in the current issue or as sample copies to explain our work to other publishers and elicit their cooperation in the form of review copies of books or periodicals.

Sample copies of Digest #11 were sent to the Relief Administrators of all the States and dependencies of the United States. Those who so request will be placed on the permanent mailing list.

The Digest is delivered by messenger to local addresses. These copies

go to 41 individuals in the Museum Building where the Social Surveys organization is located, to 25 at Cameron Street, S.E.R.B. headquarters, and to 26 other people working in the Capitol.

Copies delivered by mail are distributed as follows (exclusive of Relief Administrators mentioned above): Philadelphia, 22; Pittsburgh, 8; balance of Pennsylvania, 38; Washington, D. C., 21; balance of U. S. A., 25.

The distribution of persons on the permanent mailing list, according to occupation or industry, is as follows:

| | | |
|---|---|---|
| 1. | State Government, Harrisburg | |
| | a. Social Surveys, Museum Building | 41 |
| | b. S.E.R.B., Cameron Street | 25 |
| | c. State Department, Capitol | 27 |
| 2. | State Employees in the Field | |
| | a. Social Surveys Field Representatives | 16 |
| | b. S.E.R.B. Field Rep. & County E.R.B. | 21 |
| 3. | Governments of other States | 9 |
| 4. | Federal Government, Washington | |
| | a. Federal Emergency Relief | 11 |
| | b. Dept. of Commerce (including Census) | 2 |
| | c. Dept. of Labor | 7 |
| 5. | Social Service Agencies, private | 6 |
| 6. | Colleges and Universities | 14 |
| 7. | Libraries | 6 |
| 8. | Miscellaneous Societies | 4 |
| 9. | Business Establishments | 4 |
| 10. | Affiliation Unknown | 11 |
| 11. | Author | 1 |
| 12. | Research & Statistical Organization | 1 |
| | Total | 206 |

# CHAPTER V

# ANALYSIS OF PERSONNEL

While the state-wide survey of unemployment was being conducted last year, Social Surveys employed by far the largest number of persons working on any of the more than 4,000 projects handled by the S.E.R.B. During the week of April 12, for instance, approximately one-fifth of the 81,157 individuals then engaged on various projects throughout Pennsylvania were on the Social Surveys payroll.

Important and quite accurate data has been gathered and tabulated concerning the personnel of this section of the Department of Research and Statistics, in turn a division of the S.E.R.B. The analysis that follows is based upon information supplied by 15,859 employees, of whom 9,769 were males and 6,090 females. The total number of persons employed naturally fluctuated from week to week and was frequently higher than the above figure, but complete data is lacking on additional employees. (See Table 1)

Economic Status of Workers

As to the economic status of these individuals, it was found that 61% of the total were heads of households, 28% were independent (non-economic heads), and 11% unspecified. See Table 2) A naturally higher percentage of males - 68% -- were economic heads, the number of females in that category being 49%. Thus, there were more independent persons among the females than among the males - 38% of the former and 22% of the latter.

Of the total under consideration, 61% were males and 39% females; but the distribution of economic heads was 69% male and 31% female. Independent persons (non-economic heads) were 48% male, and 52% female, while among the unspecified, 54% were males and 46% females.

Age and Sex

An age-analysis of this group revealed that approximately 41% were under 30, about 78% were between 20 and 44, and around 8% over 50. Comparing males and females, the figures showed that 35% of the males were under 30,

74% were between 20 and 44, and 11% over 50, while 50% of the females were under 30, 83% were between 20 and 44, and 4% over 50. The greatest percentage of the total, and males, were concentrated in the 25-29 age group; the majority of females were between the ages of 20 and 24. (See Table 3)

| | Total | Male | Female |
|---|---|---|---|
| Under 30 | 41% | 35% | 50% |
| 20-44 | 78% | 74% | 83% |
| Over 50 | 8% | 11% | 4% |

As for job distribution of the personnel according to sex, the supervision was predominantly male, the sex of the enumerators was proportional to the total number of males and females employed, and checkers and stenographers were mainly female.

Approximately 71% of the personnel studied were enumerators, the next largest group of employees being the staff of the Harrisburg tabulating division, closely followed by the number of district supervisors,and then the Philadelphia tabulation unit.

While the factories or tabulation divisions contained but a relatively small percentage of the total employed, these groups, particularly the Harrisburg unit, remained in operation much longer than the field force. There was a tabulating division in Pittsburgh, in addition to those in Philadelphia and Harrisburg, but lacking complete information on it as a unit, it is included in this report with the remainder of the State.

In the Philadelphia tabulating unit, the key-punching staff was entirely female, and coding workers were mainly of that sex; but with the exception of stenography,the other positions were primarily filled by men. (See Table 4) Practically all the workers in the Philadelphia and Harrisburg factories were native whites,there being only 14 colored and one foreign-born, located in the former unit.

The Harrisburg factory showed a preponderance of males. While all the

secretaries and stenographers, 11 out of 12 of the typists, two thirds of the key-punch operators, and one-half the coders were female, other positions were nearly all filled by males. (See Table 4)

Education

One-third of the total number of persons studied had attended college and about 11% were college graduates. Almost nine-tenths of the personnel had attended high school and 19% had graduated; 9% of those reporting did not finish grammar school. (See Table 5)

In addition to such regular training, the following persons reported attendance at other schools:

| School | Total Attended | Graduated |
|---|---|---|
| Commercial | 1,173 | 168 |
| Correspondence | 110 | 16 |
| Fine Arts | 55 | 15 |
| Night | 77 | 7 |
| *Teachers | 391 | 107 |
| Technical | 91 | 33 |
| Trade | 58 | 11 |
| Private | 195 | 33 |

*Included with colleges in Tables 5 and 6

About 40% of the males and 50% of the females attended high school but went no further, while 39% of the males and 33% of the females attended college. College degrees were held by almost 12% of the males and 9% of the females.

Of the 15,859 persons reporting, 1,728 or 10.9% held degrees. (See Table 6) The information given in the table is only for the highest degree reported, but since some individuals held more than one degree, the number of degrees exceeded the number of persons holding degrees. About 30% of the degrees were Bachelors of Art and 45% Bachelors of Science. Only 66 or 0.4% of the degrees reported were Master's degrees and 98 or 0.6% were Doctor's degrees.

Among males almost 50% of the degrees reported were Bachelors of Science and 25% Bachelors of Art. Among females the opposite proportions held true, 50% being Bachelors of Art and 25% Bachelors of Science.

Regular Industries Reported

As for industry distribution, the 15,859 employees were grouped under 23 industrial divisions and 280 sub-divisions. Some of the sub-divisions are separate industries in themselves, such as Shoe Stores under Retail Trade; others are actually sub-groups,such as Coal by-products,except Coke, under Chemical and Allied Products, manufacturing.

With the exception of Agriculture, Government, and Metal Products (primary) manufacturing, which tabulations represent every county, the following figures are for Philadelphia County alone:

| Group | No. of Industries |
|---|---|
| 1. Food products, manufacturing | 14 |
| 2. Textiles, manufacturing | 21 |
| 3. Metal Products (primary) manufacturing | 6 |
| 4. Fabricated Metal Products, manufacturing | 29 |
| 5. Lumber, Timber, Wood Products, manufacturing | 4 |
| 6. Paper and Printing, manufacturing | 4 |
| 7. Leather, Rubber, Composition Goods, manufacturing | 7 |
| 8. Clay, Glass, Stone, manufacturing | 6 |
| 9. Chemical and Allied Products, manufacturing | 9 |
| 10. Wholesale Trade | 39 |
| 11. Retail Trade | 35 |
| 12. Transportation | 9 |
| 13. Public Utilities | 6 |
| 14. Mines and Quarries | 3 |
| 15. Construction | 7 |
| 16. Contracting | 4 |
| 17. Hotels and Restaurants | 3 |
| 18. Government | 10 |
| 19. Insurance and Finance | 8 |
| 20. Service | 8 |
| 21. Agriculture | 8 |
| 22. Miscellaneous | 38 |
| 23. Unspecified Industry | 0 |

For this report, a sample distribution, representing 44.1% of the total employees questioned, has been prepared.(See Table 8) It contains several

large groups of industries as well as certain specified ones. Persons reporting under Metal Products (primary) manufacturing included workers in machine shops, smelting plants, tube and pipe mills, blast furnaces and steel mills, foundries, and other metal products. Government represents Federal, state, county, city or any of their agencies The 1,463 persons listed under Educational Institutions, Public, were mostly teachers; Office Work N.O.S. covers a variety of clerical jobs.

In the sample,Office Work N.O.S. contained both the largest total number of workers and the greatest number of males and females, while Educational Institutions, Public, was second. Telephone Companies had the lowest total and also the fewest number of male employees, but the fewest number of females were found in Metal Products (primary) Manufacturing.

| | | Total | Male | Female |
|---|---|---|---|---|
| High | Office Work N.O.S. | 2,030 | 834 | 1,196 |
| Second | Educational Institutions Public | 1,463 | 444 | 1,019 |
| Low | Telephone Companies | 126 | 47 | --- |
| Low | Metal Products (primary) | --- | --- | 56 |

Note: In this analysis unspecified sex are carried with male.

Regular Occupation Reported

The classification of the personnel according to occupation resulted in the following tabulations:

| Occupation Groups | Total% | Male% | Female% |
|---|---|---|---|
| Total | 100.0 | 100.0 | 100.0 |
| Office and Clerical Work | 40.0 | 29.8 | 56.5 |
| Executive and Professional | 27.9 | 27.9 | 27.9 |
| Transportation and Trade | 12.5 | 19.1 | 2.0 |
| Mechanical and Hand Trades (skilled) | 7.9 | 11.8 | 1.8 |
| Mechanical and Hand Trades (unskilled) | 1.8 | 2.5 | 0.6 |
| Domestic and Personnel Services | 1.2 | 0.6 | 2.1 |
| Public Services | 0.4 | 0.5 | 0.1 |

Note: In this analysis unspecified sex are carried with male.

It is interesting to note that the Executive and Professional group contained an equal proportion of each sex. The greatest variance between

sexes was shown in the Mechanical and Transportation classes, where males outnumbered females, and in the Office and Domestic classes, jobs mostly filled by the latter. (See Table 9)

In the Executive and Professional class, the largest number of persons, and females, in an individual occupation were teachers, while the calling attracting the highest number of males was that of managers. Considered as a group, all types of engineers totaled 509, representing 3.2% of the 15,859 persons reporting. (See Table 9)

A total of 69 occupations were recorded in the Executive and Professional division, but since certain vocations listed are divided into groups actually about 100 occupations are represented. The percentage distribution in the largest occupations was as follows:

| | Total | Male | Female |
|---|---|---|---|
| 1. Teachers and Governesses | 9.8 | 4.9 | 17.7 |
| 2. Managers | 3.4 | 5.2 | 0.6 |
| 3. Draftsmen | 1.9 | 3.0 | 0.1 |
| 4. Graduate Nurses | 1.5 | 0.1 | 3.8 |
| 5. Engineers (N.O.S.) | 0.0 | 1.4 | --- |
| 6. Superintendents - Custodians | 0.8 | 1.2 | 0.1 |
| 7. Engineers - Electrical | 0.7 | 1.2 | --- |
| 8. Social and Welfare Workers | 0.6 | 0.2 | 1.3 |
| 9. Music Teachers and Musicians | 0.6 | 0.4 | 0.9 |
| 10. Officials - Executive and Professional | 0.6 | 0.9 | 0.1 |

Report on the Coding Examination

In order to increase the speed and efficiency of coding, the administration decided, early in June, to create six positions for special orders or rationalizers. The persons employed were to act as assistants to the regular supervisors in answering any questions on coding which might arise. To obtain the most competent persons for the positions, examinations on coding were given and appointments made upon the basis of the grades obtained.

The examination was divided into three general groups,- written questions, personal interviews, and applications. The first was open to any

one in the Tabulating Division; the others were then given to the persons obtaining grades in the upper quarter of the written examination.

The written examination itself was divided into four sections - true and false, and three sections of general questions. Each section was marked upon a basis of 100; then the four marks were averaged to obtain the final grade.

The remaining two general sections of the examination - the personal interviews and the applications - were graded in the following manner:

1. Applications:

   50% was allowed for education
   50% was allowed for previous experience

2. Personal Interviews:

   10% for appearance
   10% for presence
   10% for previous experience[a]
   25% for general coding ability[b]
   10% for ability to express ones self
   10% for language
   25% for potentialities[c]

   a) Answers to more specific questions than were answered on the application.
   b) To give a chance to anyone who might have known how to code but did not answer the written questions very well.
   c) Estimation based upon the former conditions and upon the work done at the regular job.

By weighting the three general sections, a fair average was obtained. The written examination was weighted by four, the application by three, and the interviews by three. Thus the interview and applications were given equal weight, while the examination had slightly more weight than either taken separately.

Table 1

POSITION CLASSIFICATION
OF SOCIAL SURVEYS EMPLOYEES
FOR THE STATE
1934

| | Total Employed[1] | Total Reporting | Male | Female |
|---|---|---|---|---|
| Total | 17,511 | 15,859[2] | 9,640 | 6,090 |
| Field | | | | |
| Area Supervisors | 22 | 22 | 22 | --- |
| Assistant Area Supervisors | 65 | 65 | 65 | --- |
| 3 County Supervisors | 65 | 65 | 65 | --- |
| Assistant County Supervisors | 128 | 128 | 127 | 1 |
| District Supervisors | 1,225 | 1,055 | 908 | 147 |
| Regional Supervisors | 16 | 16 | 16 | --- |
| Section Supervisors | 12 | 12 | 12 | --- |
| Enumerators | 12,450 | 11,361 | 6,905 | 4,369 |
| 4 Checkers | 896 | 588 | 101 | 445 |
| Draftsmen | 148 | 100 | 100 | --- |
| Clerks, stenographers etc. | 348 | 202 | 48 | 154 |
| Timekeepers | 143 | 113 | 113 | --- |
| Unspecified | --- | 139 | 52 | 87 |
| Factory | | | | |
| 5 Harrisburg | 1,080 | 1,080 | 633 | 447 |
| 6 Philadelphia | 913 | 913 | 473 | 440 |

1 This is a fair average, being the payroll for one week. The payroll varied from week to week.

2 Includes 129 of unspecified sex.

3 Two counties, Philadelphia and Allegheny were carried by area supervisors.

4 These were enumerators working in the offices.

5 Detailed report follows. (As of June 1934).

6 Detailed report follows.

Table 2

ECONOMIC STATUS OF SOCIAL SURVEYS PERSONNEL

| | Total | Male | Female |
|---|---|---|---|
| Total | 15,859 | 9,769 | 6,090 |
| Economic Head | 9,626 | 6,656 | 2,970 |
| Non-Economic Head | 4,443 | 2,144 | 2,299 |
| Unspecified | 1,790 | 969 | 821 |
| **Per Cent in Each Economic Status for Each Sex** | | | |
| Total | 100.0 | 100.0 | 100.0 |
| Economic Head | 60.7 | 68.1 | 48.8 |
| Non-Economic Head | 28.0 | 22.0 | 37.8 |
| Unspecified | 11.3 | 9.9 | 13.4 |
| **Per Cent in Each Sex For Each Economic Status** | | | |
| Total | 100.0 | 61.6 | 38.4 |
| Economic Head | 100.0 | 69.1 | 30.9 |
| Non-Economic Head | 100.0 | 48.3 | 51.7 |
| Unspecified | 100.0 | 54.1 | 45.9 |

Table 3

SOCIAL SURVEYS CLASSIFICATION - 1934
TOTAL PERSONNEL BY AGE AND SEX

| AGE GROUP | TOTAL | MALE | FEMALE |
|---|---|---|---|
| | Number | | |
| TOTAL | 15,859 | 9,769 | 6,090 |
| 19 and under | 281 | 73 | 208 |
| 20 - 24 | 3,090 | 1,499 | 1,591 |
| 25 - 29 | 3,183 | 1,915 | 1,286 |
| 30 - 34 | 2,271 | 1,401 | 870 |
| 35 - 39 | 2,145 | 1,347 | 798 |
| 40 - 44 | 1,628 | 1,099 | 529 |
| 45 - 49 | 1,094 | 805 | 289 |
| 50 - 54 | 628 | 487 | 141 |
| 55 - 59 | 396 | 343 | 53 |
| 60 - 64 | 194 | 172 | 22 |
| 65 - 69 | 95 | 91 | 4 |
| 70 and over | 29 | 28 | 1 |
| Unspecified | 825 | 509 | 316 |
| | Per Cent in each Age Group for each Sex | | |
| TOTAL | 100.0 | 100.0 | 100.0 |
| 19 and under | 1.8 | 0.7 | 3.4 |
| 20 - 24 | 19.5 | 15.4 | 26.1 |
| 25 - 29 | 20.1 | 19.6 | 20.8 |
| 30 - 34 | 14.3 | 14.3 | 14.3 |
| 35 - 39 | 13.5 | 13.8 | 13.1 |
| 40 - 44 | 10.3 | 11.3 | 8.7 |
| 45 - 49 | 6.9 | 8.2 | 4.7 |
| 50 - 54 | 4.0 | 5.0 | 2.3 |
| 55 - 59 | 2.5 | 3.5 | 0.9 |
| 60 - 64 | 1.2 | 1.8 | 0.4 |
| 65 - 69 | 0.6 | 0.9 | 0.1 |
| 70 and over | 0.2 | 0.3 | ---- |
| Unspecified | 5.1 | 5.2 | 5.2 |

Table 4 POSITION CLASSIFICATION BY SEX FOR FACTORIES

| | HARRISBURG | | | PHILADELPHIA | | |
|---|---|---|---|---|---|---|
| | | SEX | | | SEX | |
| | Total | Male | Female | Total | Male | Female |
| TOTAL | 1,080 | 633 | 447 | 913 | 473 | 440 |
| Unspecified | 31 | 17 | 14 | 233 | 199 | 34 |
| Accountant | 2 | 2 | --- | --- | --- | --- |
| Accountant, Statistician | 1 | 1 | --- | --- | --- | --- |
| Administrative Ass't. | 2 | 2 | --- | --- | --- | --- |
| Archivist Assistant | 1 | 1 | --- | --- | --- | --- |
| Area Supervisor | 22 | 22 | --- | --- | --- | --- |
| Area Supervisor, Ass't. | 47 | 47 | --- | --- | --- | --- |
| Bookkeeper | 2 | --- | 2 | --- | --- | --- |
| Carpenter | --- | --- | --- | 7 | 7 | --- |
| Clerk | 9 | 5 | 4 | 4 | 4 | --- |
| Clerk, Administrative | 2 | 2 | --- | 1 | --- | 1 |
| Clerk, Coding | 343 | 197 | 146 | 171 | 71 | 100 |
| Clerk, File | 22 | 16 | 6 | 3 | 3 | --- |
| Clerk, File Chief | 2 | 2 | --- | --- | --- | --- |
| Clerk, Payroll | 1 | --- | 1 | --- | --- | --- |
| Clerk, Personnel | --- | --- | --- | 1 | --- | 1 |
| Clerk, Personnel Ass't. | 1 | --- | 1 | --- | --- | --- |
| Clerk, Receiving | 1 | 1 | --- | --- | --- | --- |
| Clerk, Research | 1 | 1 | --- | --- | --- | --- |
| Clerk, Statistical | 2 | 2 | --- | --- | --- | --- |
| Clerk, Supply | 2 | 2 | --- | --- | --- | --- |
| Clerk, Tabulating | 25 | 9 | 16 | 1 | 1 | --- |
| Comptroller | 1 | 1 | --- | --- | --- | --- |
| Comptroller, Assistant | --- | --- | --- | 1 | --- | 1 |
| Coordinator | --- | --- | --- | 2 | 2 | --- |
| Draftsman | 1 | 1 | --- | 1 | 1 | --- |
| Editor | 3 | --- | 3 | --- | --- | --- |
| Electrician | --- | --- | --- | 7 | 7 | --- |
| Foreman | 10 | 10 | --- | 5 | 3 | 2 |
| Foreman, Assistant | 3 | --- | 3 | 26 | 20 | 6 |
| Inspector, Card | 101 | 72 | 29 | --- | --- | --- |
| Inspector, Chief | --- | --- | --- | 6 | 5 | 1 |
| Investigator | --- | --- | --- | 1 | 1 | --- |
| Janitor | 1 | 1 | --- | --- | --- | --- |
| Key Punch Operator | 224 | 61 | 163 | 253 | --- | 253 |
| Librarian | 1 | --- | 1 | 1 | 1 | --- |
| Maintenance Engineer | 1 | 1 | --- | --- | --- | --- |
| Messenger | 11 | 8 | 3 | --- | --- | --- |
| Mimeograph Operator | 3 | 3 | --- | 1 | 1 | --- |
| Planning Assistant | 1 | 1 | --- | --- | --- | --- |
| Purchasing Agent | 1 | 1 | --- | --- | --- | --- |
| Rationalizer | 6 | 5 | 1 | --- | --- | --- |
| Research Worker | 13 | 6 | 7 | --- | --- | --- |
| Secretary | 7 | --- | 7 | 1 | --- | 1 |
| Soc. Survey Ass't. Director | 1 | 1 | --- | --- | --- | --- |
| Sorting Machine Operator | 92 | 91 | 1 | 30 | 29 | 1 |
| Statistician, Assistant | 5 | 4 | 1 | 1 | 1 | --- |
| Stenographer | 25 | --- | 25 | 15 | 1 | 14 |
| Supervisor | 3 | 3 | --- | 41 | 37 | 4 |
| Supervisor, Assistant | 17 | 16 | 1 | 13 | 8 | 5 |
| Supervisor, Department | 7 | 6 | 1 | 5 | 5 | --- |
| Supervisor, Division | 3 | 3 | --- | 2 | --- | 2 |
| Supervisor, Shift | 1 | 1 | --- | --- | --- | --- |
| Tabulating Division, Chief | 1 | 1 | --- | --- | --- | --- |
| Tabulating Machine Operator | --- | --- | --- | 27 | 27 | --- |
| Timekeeper | 3 | 3 | --- | 20 | 20 | --- |
| Typist | 12 | 1 | 11 | 1 | --- | 1 |
| Watchman | 3 | 3 | --- | --- | --- | --- |
| Checkers, Inspectors, etc. | --- | --- | --- | 32 | 19 | 13 |

Table 5

TYPE OF EDUCATION
SOCIAL SURVEYS PERSONNEL
FOR THE ST TE
1934

| School | Total | Male | Female |
|---|---|---|---|
| | Attended* | | |
| Grammar | 1,682 | 1,193 | 489 |
| High School | 7,864 | 4,41 | 3, 453 |
| College | 5,762 | 3,784 | 1, 978 |
| Unspecified | 551 | 382 | 169 |
| | Graduated | | |
| Grammar | 235 | 161 | 74 |
| High School | 1,302 | 709 | 593 |
| College | 1,728 | 1,193 | 535 |
| | Did Not Graduate | | |
| Grammar | 1,447 | 1,032 | 415 |
| High School | 6,937 | 3,809 | 3, 128 |
| College | 4,034 | 2,591 | 1, 443 |

* The totals here do not include the higher schools - i. e. those in colleges are not recorded among those who attended high school, and those in high school are not recorded with those who attended grammar school.

| School | Attended | | | Graduated | | |
|---|---|---|---|---|---|---|
| | Total | Male* | Female | Total | Male | Female |
| | Number | | | | | |
| TOTAL | 15,859 | 9,769 | 6,090 | --- | --- | --- |
| No Education Reported | 551 | 382 | 169 | --- | --- | --- |
| Grammar | 15,308 | 9,388 | 5,920 | 3,167 | 2,056 | 1,111 |
| High School | 13,626 | 8,195 | 5,431 | 2,932 | 1,895 | 1,037 |
| College | 5,762 | 3,784 | 1,978 | 1,728 | 1,193 | 535 |
| | Per Cent in Each Group for the Respective Sexes | | | | | |
| TOTAL | 100.0 | 100.0 | 100.0 | --- | --- | --- |
| No Education Reported | 3.5 | 3.9 | 2.8 | --- | --- | --- |
| Grammar | 96.5 | 96.1 | 97.2 | 20.0 | 21.0 | 18.2 |
| High School | 85.9 | 83.9 | 89.2 | 18.5 | 19.4 | 17.0 |
| College | 36.3 | 38.7 | 32.5 | 10.9 | 12.2 | 8.8 |

*Males include those of unspecified sex.

Table 6

DEGREES HELD BY PERSONNEL
SOCIAL SURVEYS EMPLOYEES
FOR THE STATE
1934

| | Total | Male | Female | | Total | Male | Female |
|---|---|---|---|---|---|---|---|
| Grand Total | 15,859 | 9,769 | 6,090 | | | | |
| No. Degree | 14,131 | 8,576 | 5,555 | | | | |
| Total | 1,728 | 1,193 | 535 | | | | |
| A. A. | 2 | 1 | 1 | D. C. L. | 1 | 1 | --- |
| A. B. | 506 | 283 | 223 | D. S. C. | 7 | 4 | 3 |
| A. C. | 1 | 1 | --- | D. D. | 2 | 2 | --- |
| A. E. | 1 | 1 | --- | D. D. S. | 11 | 10 | 1 |
| A. F. D. | 1 | 1 | --- | D. C. | 3 | 3 | --- |
| A. M. | 6 | 5 | 1 | A. E. | 1 | 1 | --- |
| B. Agr. | 2 | 2 | --- | Ed. B. | 2 | 1 | 1 |
| B. Arch. | 5 | 5 | --- | Ed. M. | 1 | 1 | --- |
| B. B. A. | 10 | 6 | 4 | F. E. | 35 | 35 | --- |
| B. C. E. | 5 | 5 | --- | E. M. | 3 | 3 | --- |
| B. C. L. | 2 | 2 | --- | Litt. D. | 1 | 1 | --- |
| B. C. S. | 13 | 10 | 3 | L. L. B. | 22 | 20 | 2 |
| B. Div. | 2 | 2 | --- | L. L. D. | 1 | 1 | --- |
| B. Didactics | 1 | 1 | --- | M. A. | 41 | 26 | 15 |
| B. E . | 13 | 9 | 4 | M. B. | 2 | --- | 2 |
| B. F. A. | 4 | 1 | 3 | M. D. | 1 | 1 | --- |
| B. J. | 1 | 1 | --- | M. E. | 52 | 51 | 1 |
| B. L. | 4 | 3 | 1 | M. Pd. | 3 | 1 | 2 |
| B. O. | 2 | 1 | 1 | M. P. E. | 2 | 1 | 1 |
| B. P. | 1 | 1 | --- | M. S. | 10 | 8 | 2 |
| B. P. E. | 3 | 1 | 2 | Mus. B. | 5 | --- | 5 |
| B. Pd. | 5 | 2 | 3 | Pd. D. | 1 | 1 | --- |
| B. S. | 708 | 523 | 185 | Pharm. D. | 56 | 47 | 9 |
| B. S. A. | 1 | 1 | --- | Ph. B. | 20 | 19 | 1 |
| B. Th. | 1 | 1 | --- | Ph. D. | 9 | 8 | 1 |
| C. E. | 47 | 47 | --- | R. N. | 55 | --- | 55 |
| C. M. | 1 | --- | 1 | Sc. D. | 1 | 1 | --- |
| Ch. D. | 1 | 1 | --- | S. E. | 1 | 1 | --- |
| Chem. E. | 8 | 8 | --- | S. U. D. | 1 | 1 | --- |
| C. P. A. | 5 | 5 | --- | Unspecified | 1 | 1 | --- |
| C. S. B. | 1 | 1 | --- | | | | |

Table 7

ADDITIONAL EDUCATION REPORTED BY 466 PERSONS WHO FINISHED GRAMMAR SCHOOL
BUT DID NOT ATTEND HIGH SCHOOL

| SCHOOL | MALE | | FEMALE | |
|---|---|---|---|---|
| | Total Attended | Graduated | Total Attended | Graduated |
| Commercial | 189 | 19 | 154 | 26 |
| Correspondence | 31 | 4 | --- | --- |
| Fine Arts | 13 | 3 | 4 | --- |
| Preparatory | 23 | 2 | 5 | 1 |
| Trade | 29 | 5 | --- | --- |

ADDITIONAL EDUCATION REPORTED BY 1194 PERSONS WHO FINISHED HIGH SCHOOL
BUT DID NOT ATTEND COLLEGE

| SCHOOL | MALE | | FEMALE | |
|---|---|---|---|---|
| | Total Attended | Graduated | Total Attended | Graduated |
| Commercial | 365 | 48 | 436 | 64 |
| Correspondence | 70 | 11 | 3 | --- |
| Fine Arts | 9 | 4 | 28 | 7 |
| Night | 55 | 5 | 22 | 2 |
| Preparatory | 78 | 10 | 13 | 2 |
| Technical | 45 | 9 | 41 | 22 |
| Trade | 24 | 5 | 5 | 1 |

ADDITIONAL EDUCATION REPORTED BY 74 PERSONS WHO HAVE ATTENDED COLLEGE

| SCHOOL | MALE | | FEMALE | |
|---|---|---|---|---|
| | Total Attended | Graduated | Total Attended | Graduated |
| Commercial | 26 | 10 | 4 | 1 |
| Correspondence | 6 | 1 | --- | --- |
| Fine Arts | --- | --- | 1 | 1 |
| Technical | 5 | 2 | --- | --- |

Table 5

SAMPLE INDUSTRIAL DISTRIBUTION OF SOCIAL SURVEYS PERSONNEL
BY TYPE OF FORMER INDUSTRY
FOR THE STATE - 1934

| | BOTH SEXES | MALE | FEMALE |
|---|---|---|---|
| | Number | | |
| TOTAL | 6,995 | 3,659 | 3,336 |
| Metal Products (Primary) Manufacturing | 416 | 360 | 56 |
| Printing and Publishing, Bookbinding | 246 | 161 | 85 |
| Department Stores | 250 | 82 | 168 |
| Railroads (Steam) | 530 | 437 | 93 |
| Telephone Companies | 126 | 47 | 79 |
| Building Erection (Construction) | 401 | 381 | 20 |
| Government | 449 | 260 | 189 |
| Banks | 280 | 187 | 93 |
| Insurance | -361 | 266 | 95 |
| Educational Institutions, Public | 1,463 | 444 | 1,019 |
| Office Work N. O. S. | 2,030 | 834 | 1,196 |
| Professional Services | 443 | 200 | 243 |
| | Per Cent of Total Number of Both Sexes, Male or Female in Groups | | |
| GRAND TOTAL | 100.0 | 100.0 | 100.0 |
| Sample Total | 44.1 | 38.1 | 54.7 |
| Metal Products (Primary) Manufacturing | 2.6 | 3.7 | 0.9 |
| Printing and Publishing, Bookbinding | 1.6 | 1.7 | 1.4 |
| Department Stores | 1.6 | 0.9 | 2.8 |
| Railroads (Steam) | 3.3 | 4.5 | 1.5 |
| Telephone Companies | 0.8 | 0.5 | 1.3 |
| Building Erection (Construction | 2.5 | 4.0 | 0.3 |
| Government | 2.8 | 2.7 | 3.1 |
| Banks | 1.8 | 1.9 | 1.5 |
| Insurance | 2.3 | 2.8 | 1.6 |
| Educational Institutions. Public | 9.2 | 4.6 | 16.7 |
| Office Work N. O. S. | 12.8 | 8.7 | 19.6 |
| Professional Services | 2.8 | 2.1 | 4.0 |

Table 9

NORMAL OCCUPATIONS OF THE SOCIAL SURVEYS PERSONNEL
FOR THE STATE
1934

| Occupation Groups | Total | Male | Female |
|---|---|---|---|
| Total | 15,859 | 9,769 | 6,090 |
| Mechanical and Hand Trades (Skilled) | 1,257 | 1,149 | 108 |
| Mechanical and Hand Trades (Unskilled) | 281 | 245 | 36 |
| Office and Clerical Workers | 6,350 | 2,907 | 3,443 |
| Transportation and Trade Pursuits | 1,989 | 1,865 | 124 |
| Domestic and Personal Services | 187 | 59 | 128 |
| Public Service Occupation | 59 | 52 | 7 |
| Unspecified Occupation | 1,313 | 768 | 545 |
| Executive and Professional | 4,423 | 2,724 | 1,699 |
| Actors | 7 | 7 | --- |
| Artists Commercial Sign Painter Etc. | 28 | 21 | 7 |
| Assistant Manager | 38 | 34 | 4 |
| Architects | 25 | 25 | --- |
| Athletes | 6 | 6 | --- |
| Auctioneers | 1 | 1 | --- |
| Artists | 14 | 8 | 6 |
| Aviators | 5 | 4 | 1 |
| Assessors | 5 | 4 | 1 |
| Bank Officials | 23 | 21 | 2 |
| Chemists | 87 | 86 | 1 |
| Clergymen | 26 | 24 | 2 |
| Curators, Museum Art and Gallery | 1 | 1 | --- |
| Draftsmen | 298 | 294 | 4 |
| Designers N. O. S. | 22 | 20 | 2 |
| Dentists | 10 | 10 | --- |
| Designers - Dress | 4 | 1 | 3 |
| Doctors and Physicians | 6 | 6 | --- |
| Dietitians | 7 | --- | 7 |
| Designers - Machines | 5 | 5 | --- |
| Detectives - Private | 7 | 4 | 3 |
| Designers - Textile | 3 | 2 | 1 |
| Designers - Tool | 1 | 1 | --- |
| Engineers - Structural | 47 | 47 | --- |
| Engineers - Chemical | 20 | 20 | --- |
| Engineers - Civil | 91 | 91 | --- |
| Engineers - Electrical | 118 | 118 | --- |
| Engineers - Industrial | 15 | 15 | --- |
| Engineers - Mechanical | 67 | 67 | --- |
| Engineers - N. O. S. | 135 | 134 | 1 |
| Engineers - Mining | 14 | 14 | --- |

| Executive and Professional (Cont'd.) | Total | Male | Female |
|---|---|---|---|
| Engineers - Marine | 1 | 1 | --- |
| Engineers - Plant | 1 | 1 | --- |
| Editors and Authors | 44 | 35 | 9 |
| Entertainers, Hostesses etc. | 10 | 5 | 5 |
| Embalmers | 3 | 3 | --- |
| Gunners | 1 | 1 | --- |
| Hygienist | 1 | 1 | --- |
| Hygienists Dental etc. | 16 | --- | 16 |
| Inventor | 1 | 1 | --- |
| Interpreter | 1 | 1 | --- |
| Lawyers | 34 | 31 | 3 |
| Librarians | 20 | 4 | 16 |
| Managers | 543 | 508 | 35 |
| Music Teacher and Musicians | 95 | 41 | 54 |
| Metallurgist | 8 | 8 | --- |
| Models - Professional | 1 | --- | 1 |
| Nurses - N. O. S. | 61 | 1 | 60 |
| Nurses - Graduate | 239 | 6 | 233 |
| Officials - Executive and Professional | 94 | 86 | 8 |
| Owners | 57 | 56 | 1 |
| Officials - Trainmaster and Assistant Executive & Professional Yardmaster | 9 | 9 | --- |
| Pharmacists | 68 | 61 | 7 |
| Photographers | 21 | 15 | 6 |
| Professionals - N. O. S. | 17 | 14 | 3 |
| Proprietors | 5 | 4 | 1 |
| Professors | 5 | 4 | 1 |
| Reporter | 28 | 20 | 8 |
| Research Specialists | 10 | 9 | 1 |
| Superintendents Custodians | 126 | 121 | 5 |
| Statisticians | 35 | 27 | 8 |
| Surveyors | 33 | 32 | 1 |
| Social and Welfare Workers | 96 | 18 | 78 |
| Specialists | 14 | 13 | 1 |
| Superintendents | 3 | 3 | --- |
| Teachers, Governesses | 1,552 | 474 | 1,078 |
| Technicians - N. O. S. | 25 | 11 | 14 |
| Teachers - N. O. S. | 1 | 1 | --- |
| Undertakers | 10 | 10 | --- |

# CHAPTER VI

# METHODOLOGY

Coverage

As stated earlier in this report, the original plan was to cover the entire State with a questionnaire which would include complete information on employment status, wages, occupation, industry, household relationships, living conditions, etc.

However, it was determined that this was impracticable because of the type of personnel available, the short period of time alloted for the necessary field work, and the immense difficulties involved in digesting such a vast amount of data after it had been gathered. The program was modified in three ways: first, by excluding the rural farm population, so that the area to be covered was curtailed; second, by removing the housing information items from the employment schedule; and third, by limiting to only a small representative sample group the taking of the more detailed schedule covering work history, educational background, etc.

Since the information needed most was that pertaining to the industrial workers in our urban centers and since it was possible to draw reasonably sharp distinctions between town and country, the exclusion of the rural farm population would not affect any conclusion which might later be drawn from the data. Furthermore, it was hoped that complete coverage of both urban and rural districts might perhaps be made the year following when a more smoothly functioning machine had been built.

This was likewise true of the housing data. Although it would have been desirable to make these studies for the entire State, the problem was of immediate importance only in the two great metropolitan areas. The Federal Government had independently undertaken Real Property Surveys in several of the larger communities and had already developed schedules, instructions, etc., that could be used. It was decided that the Social Survey staff in Allegheny County, cooperating with the Bureau of Business Research

# SCHEDULE SS-3

**I.**

| Name of person interviewed: | | Line No. | Address | |
|---|---|---|---|---|
| County | City or Township | District | Enumerator | Book No. |

**II.**

| FAMILY RELATIONSHIP | SEX | | AGE | NATIVITY | | | | EMPLOYMENT STATUS | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | NATIVE | | | Foreign Born | EMPLOYED | | | UNEMPLOYED |
| | Male ✓ | Female ✓ | | White ✓ | Colored ✓ | Other ✓ | ✓ | Full Time ✓ | Part Time ✓ | Odd Jobs ✓ | ✓ |
| A | B | C | D | E | F | G | H | I | J | K | L |
| | | | | | | | | | | | |

**III.**

| Employer—last regular job | | | Address | | |
|---|---|---|---|---|---|
| Kind of business | | | Job held | | |
| Date left: Mo. | Yr. | Length of time on job: | Yrs. | Mos. | Last rate of pay weekly |
| Employer—longest job | | | Address | | |
| Kind of business | | | Job held | | |
| Date left: Mo. | Yr. | Length of time on job: | Yrs. | Mos. | Last rate of pay weekly |

**IV.** EDUCATION

| TYPE OF SCHOOL | Number of years in attendance | Specify highest grade; "g" if graduated |
|---|---|---|
| Grammar School | | |
| High School | | |
| University or College | | |
| Commercial School | | |
| Trade School | | |
| Correspondence Course | | |
| Other (specify) | | |
| **Age left school:** | | |

**V.** JOBS HELD—1929-1933

| EMPLOYER | BUSINESS | OCCUPATION | When held | | Work-time | | Rate of pay | | Usual weekly earnings |
|---|---|---|---|---|---|---|---|---|---|
| | | | From | To | Full | Part | Highest | Last | |
| (Last or present job first) | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |

**VI.** CHART OF WORK-TIME—1929-1933

| 1933 | 12 | 11 | 10 | 9 | 8 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 1932 | 12 | 11 | 10 | 9 | 8 | 7 | 6 | 5 | 4 | 3 | 2 | 1 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Nature of work-time | | | | | | | | | | | | | Nature of work-time | | | | | | | | | | | | |
| 1931 | 12 | 11 | 10 | 9 | 8 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 1930 | 12 | 11 | 10 | 9 | 8 | 7 | 6 | 5 | 4 | 3 | 2 | 1 |
| Nature of work-time | | | | | | | | | | | | | Nature of work-time | | | | | | | | | | | | |
| 1929 | 12 | 11 | 10 | 9 | 8 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | | | | | | | | | | | | | |
| Nature of work-time | | | | | | | | | | | | | | | | | | | | | | | | | |

**VII.** ESTIMATED ANNUAL EARNINGS

| 1933 | 1932 | 1931 | 1930 | 1929 |
|---|---|---|---|---|
| | | | | |

of the University of Pittsburgh, would enumerate not only the persons of the County but the dwellings as well, thereby obtaining the desired housing data for one section of the State. In Philadelphia, the City Planning Commission had developed a schedule which, with some modifications, was used to collect similar data for Philadelphia. This made it possible to obtain the housing information desired for about one third of the State's population while keeping the tabulating difficulties at a minimum by using separate schedules.

The third modification was made somewhat differently. A separate schedule (see page opposite) was drawn up which carried all the details of work history, earnings, educational background, etc., which were considered necessary. A four per cent sample was then chosen in selected communities by taking the twenty-fifth page of each unemployment schedule book and re-enumerating the household using this new schedule. In Philadelphia, half of the sample was chosen by re-enumerating the fifth house in each block. This method of sampling made a slight difference as can be seen in the accompanying map.

Social Surveys had, up to this point, two fields of inquiry: an unemployment census which covered completely the urban households of the State and the Real Estate Surveys which included all the households situated in Philadelphia and Pittsburgh, the two great metropolitan centers. In addition, four per cent of the households enumerated in the Unemployment Census were studied in detail for work history etc., and fifteen per cent and forty per cent samples of the dwelling studies in the Real Property Inventory were further investigated for housing costs, methods of financing, and family income.

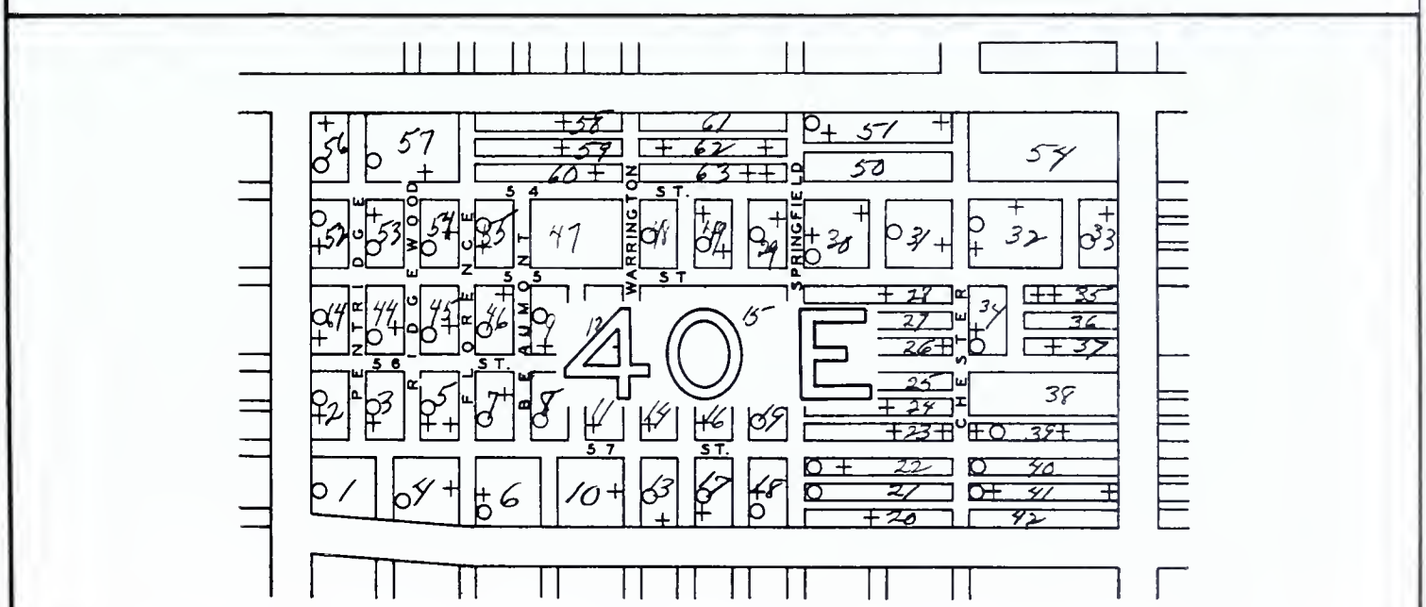
Schedules used in the Unemployment Census

The end product of every investigation depends entirely on the form of

# DISTRIBUTION OF SAMPLES FOR SELECTED CENSUS TRACTS IN PHILADELPHIA

+ SS-3 THE 25TH. SHEET IN EVERY SCHEDULE BOOK.

O SS-3A THE 5TH. HOUSE IN EVERY BLOCK.


SOCIAL SURVEYS SECTION 1934

the questionnaire used in gathering the data. This is particularly true of schedules so designed that the enumerator merely checks various items, since this involves the creation of the classification prior to the actual collection of the units. The general development of the schedule has been discussed above but the form finally adopted so completely affected the results that further consideration of it is desirable. (Only the basic schedules SS-IA and SS-IB will be considered at this point.)

Schedule SS-IA

Schedule SS-IA in Philadelphia and Allegheny Counties provided for:

1. Identification Information
2. A Household Summary of Employment Status
3. A Statement for Each Person in the Household
   - (a) Family Relationship
   - (b) Sex
   - (c) Age
   - (d) Nativity
   - (e) Employment Status
   - (f) Occupation
   - (g) Industry
   - (h) A question, "Have you been previously employed?" for unemployed
   - (i) The date of losing last regular job
   - (j) A question on "Are you seeking work?" for unemployed
   - (k) A question on reason for not seeking work for unemployed

This part of the Survey was conducted in February and the experience gained using this schedule enabled the organization to make modifications which proved valuable when the remainder of the State was covered in April.

Additional Identification Information

During the first week of the survey in Philadelphia, it was decided to add further identification to a group of Philadelphia schedules so that a comparison could be made with the studies which had been made in previous years by the Bureau of Industrial Research of the University of Pennsyl-

vania. These studies had been chosen from representative school blocks, so the Social Survey schedules for the households within this area were returned to have noted on them school district. The school district and school block number were entered on the top of the schedule directly above the section allowed for the enumerator's name and the book number. At the same time, it was decided to enter the city block number to the right of the school block number in order that sampling studies could be made at any time it was felt desirable to do so. This gave us complete identification of each Philadelphia household because not only did we have the name and address but also the city block, district, city or town, and county, and in addition school block and school district for a representative sample.

The system of districting was that used by the United States Bureau of Census. Census Tract maps were obtained for Philadelphia and Allegheny Counties and later for other counties of the State.

Households

It was necessary that a "household" be rigidly defined since, from one angle, that was the survey unit. After some discussion, the following definition was arrived at and inserted in the instructions that the enumerators carried with them:

1. DEFINITION OF HOUSEHOLD

> A household is a group of persons living together in one housekeeping unit. The persons constituting this group may or may not be related by ties of kinship, but if they live together within the same house keeping quarters, they constitute one household. Thus a servant who sleeps in the house or on the premises should be included with the members of the household for which he works. Again, a boarder or lodger should be included with the members of the household with which he lodges, but a person who boards in one place and lodges in another should be returned as a member of the household at the place where he lodges or rooms.
>
> It should be noted also that two or more households may occupy one dwelling, each household occupying separate living quarters with separate housekeeping

facilities. In these cases, it is necessary that a form SS-1A be filled out for EACH SUCH HOUSEHOLD.

There are instances of one person living in a house or an apartment or set of housekeeping rooms. In such case, the individual will be the household and one form filled out. In other cases, there are two or three entire families living together in a single housekeeping unit. These again constitute one household and one schedule will be filled out. Again, one or more persons may be living in a set of housekeeping rooms which is in a house occupied by a private family. Here there are two households, and two schedules will be filled out - one for the persons occupying the housekeeping rooms and one for the private family. THEREFORE, REGARDLESS OF THE VARIATIONS IN THE NUMBER OF PERSONS AND FAMILIES LIVING IN THE HOUSEKEEPING UNIT, WHATEVER IT MAY BE, ONE FORM MUST BE FILLED OUT FOR EACH SUCH HOUSEHOLD."

The Detailed Information on the Members of the Household and Family Relationship

In filling out Section Three of the SS-1A schedule, the enumerator's first problem was that of determining the relationships within the household. Generally this was not difficult but borderline cases caused some confusion. A man, wife, and daughter would be living together in a household. With them lived the daughter's husband and their child. The question of the relationships was settled by considering the son-in-law the secondary head of another family since that was perhaps the truer way to view the relationship. In households where there were such additional families, whether related or not, the enumerator was instructed to draw a line across the schedule separating the families and to refer the relationships of the members of these additional families to their respective heads. The following groups were considered as families separate from the family of the Head of the household:

1. Husband and wife
2. Husband and/or wife with children
3. Widow with children
4. Widower with children
5. Brothers and/or sisters (without resident parents)

After entering the family relationship, the sex was checked and the

# PROPOSED SCHEDULES

## SCHEDULE S.P.-1 THE ORIGINAL DRAFT OF A SCHEDULE FOR AN UNEMPLOYMENT SURVEY IN PENNSYLVANIA

I

| COUNTY | CITY OR TOWNSHIP | DISTRICT | ENUMERATOR | BOOK NO. | HOME ADDRESS | SINGLE | DOUBLE | END-ROW | ROW | APARTM'T | FLAT | HOTEL |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | | | |

II SUMMARY: NUMBER OF PERSONS

| A | B | C | D | E - EMPLOYED | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | HOUR PER WEEK | | | | | | | | | | | | NATURE OF WORK-TIME | | |
| HOUSE-HOLD | EMPLOYABLE | UNEMPLOYED | SELF-EMPLOYED | 1-4 | 5-9 | 10-14 | 15-19 | 20-24 | 25-29 | 30-34 | 35-39 | 40-44 | 45-49 | 50-54 | 55-UP | FULL | PART | CASUAL |
| | | | | | | | | | | | | | | | | | | |

III

| | | |
|---|---|---|
| A | NUMBER OF UNRELATED FAMILIES | |
| B | TOTAL MEMBERS OF FAMILIES | |
| C | NUMBER OF LODGERS | |
| D | NUMBER OF RESIDENT SERVANTS | |
| E | NUMBER OF ROOMS | RATIO TO II A |
| F | NUMBER OF SLEEPING ROOMS | RATIO TO II A |
| G | NUMBER OF BED-SPACES | RATIO TO II A |
| H | NUMBER OF BATH-ROOMS | RATIO TO III A |
| I | NUMBER OF TOILETS | RATIO TO III A |

IV

| YEAR ENDED | NUMBER OF PERSONS IN HOUSE-HOLD | NUMBER OF CHANGES OF RESIDENCE | BASIS OF RESIDENCE | | | |
|---|---|---|---|---|---|---|
| | | | RENT | | OWN | |
| | | | MONTHLY RENTAL | NO. OF MONTHS IN ARREARS | CLEAR | MORTGAGED |
| A | B | C | D | E | F | G |
| | | | | | | |

V

| RELATION-SHIP | SEX | | AGE | NATIVITY | | | | OCCUPATION | INDUSTRY OR ESTABLISHMENT | EMPLOYMENT | | | | DATE OF LOSING REGULAR JOB | PREVIOUSLY WORKED REGULARLY YES NO | STATUS OF UNEMPLOYMENT | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | NATIVE | | | FOR-EIGN BORN | | | EMPLOYED | | | UNEMPLOY-ED | | | SEEKING WORK | IF 'YES' HOW IF 'NO' WHY NOT |
| | MALE | FEMALE | | WHITE | COLOR-ED | OTHER | | | | FULL | PART | CASUAL | | | | | |
| A | B | C | D | E | F | G | H | I | J | K | L | M | N | O | P | Q | R |
| HEAD | | | | | | | | | | | | | | | | | |
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## SCHEDULE SS-1 THE SECOND DRAFT PROPOSED

| COUNTY | CITY OR TOWNSHIP | DISTRICT | ENUMERATOR | BOOK NO. | ADDRESS | SINGLE | DOUBLE | ROW | APARTMENT FLAT | HOUSEKEEP-ING ROOMS | OTHER |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | | |

II NUMBER OF PERSONS

| IN HOUSEHOLD | EMPLOYABLE | EMPLOYED | | | UNEMPLOYED |
|---|---|---|---|---|---|
| A | B | FULL TIME | PART TIME | ODD JOBS | |
| | | | | | |

III HOME TENURE

| RENT | | OWN | |
|---|---|---|---|
| MONTHLY RENTAL | NUMBER OF MONTHS IN ARREARS | CLEAR | MORTGAGED |
| | | | |

IV DESCRIPTION OF HOUSEHOLD AND RESIDENCE

| | | | | | |
|---|---|---|---|---|---|
| A | NUMBER OF NATURAL FAMILIES | F | NUMBER OF ROOMS | K | RATIO F TO IIA |
| B | TOTAL NUMBER OF PERSONS IN NATURAL FAMILIES | G | NUMBER OF SLEEPING ROOMS | L | RATIO G TO IIA |
| C | NUMBER OF NON-FAMILY RELATIVES | H | NUMBER OF BED-SPACES | M | RATIO H TO IIA |
| D | NUMBER OF LODGERS | I | NUMBER OF PRIVATE BATH ROOMS | N | RATIO I TO IVA |
| E | NUMBER OF RESIDENT SERVANTS | J | NUMBER OF INSIDE TOILETS | O | RATIO J TO IVA |

V

| FAMILY RELATION-SHIP | SEX | | AGE | NATIVITY | | | | EMPLOYMENT STATUS | | | | OCCUPATION | INDUSTRY OR BUSINESS | FOR UNEMPLOYED PERSONS | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | NATIVE | | | FOR-EIGN BORN | EMPLOYED | | | UNEM-PLOYED | | | DATE OF LOS-ING REGULAR JOB | SEEKING WORK "YES" "NO" | IF NO WHY NOT? |
| | MALE | FEMALE | | WHITE | COLOR- | OTHER | | FULL TIME | PART TIME | ODD JOB | | | | | | |
| A | B | C | D | E | F | G | H | I | J | K | L | M | N | O | P | Q |
| HEAD | | | | | | | | | | | | | | | | |
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# SCHEDULES USED

## SCHEDULE SS-1A THE FORM FINALLY ADOPTED AND USED TO COVER PHILADELPHIA AND ALLEGHENY COUNTIES

| I | COUNTY | CITY OR TOWN | DISTRICT | ENUMERATOR | BOOK NO. | NAME<br>ADDRESS |
|---|---|---|---|---|---|---|
| | | | | | | |

| II NUMBER OF PERSONS | | | | | |
|---|---|---|---|---|---|
| IN HOUSE-HOLD | EMPLOYED | | | NOW SEEKING WORK | |
| | FULL TIME | PART TIME | ODD JOBS | PREVIOUSLY EMPLOYED | NOT PREV EMPLOYED |
| A | B | C | D | E | F |
| | | | | | |

| III FAMILY RELATION-SHIP | SEX | | AGE | NATIVITY | | | | EMPLOYMENT STATUS | | | | OCCUPATION | INDUSTRY | FOR UNEMPLOYED PERSONS | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | MALE | FEMALE | | FOR-EIGN BORN | NATIVE | | | EMPLOYED | | | UNEM-PLOYED | | | PREV-IOUSLY EMPLOYED | IF EVER PREV EMP STATE DATE OF LOSING REGULAR JOB | SEEKING WORK | IF 'NO' WHY NOT |
| | | | | | WHITE | COLOR-ED | OTHER | FULL TIME | PART TIME | ODD JOBS | | | | | | | |
| A | B | C | D | E | F | G | H | I | J | K | L | M | N | O | P | Q | R |
| HEAD | | | | | | | | | | | | | | | | | |
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## SCHEDULE SS-1B A REVISED SCHEDULE USED IN THE REMAINING SIXTY FIVE COUNTIES

| COUNTY | BORO, CITY OR TOWNSHIP | DISTRICT OR TOWN | BOOK NUMBER | CITY BLOCK | SCHEDULE NUMBER | NAME<br>ADDRESS | ENUMERATOR<br>NAME<br>NUMBER |
|---|---|---|---|---|---|---|---|
| | | | | | | | |

| I HOUSEHOLD CLASSIFICATION | | | | | | III NUMBER OF PERSONS | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| NO ADD'L FAMILIES | NO PERSONS IN ADD'L FAMILIES | NON-FAMILY RELATIVES | NO. OF LODGERS | NO RESIDENT SERVANTS | NO PERSONS IN HEAD FAMILY | IN HOUSE-HOLD | EMPLOYED | | | UNEMPLOYED | | |
| | | | | | | | FULL TIME | PART TIME | ODD JOBS | PREV EMP'D | NOT PREV EMP'D | B+C+D+E+F |
| A | B | C | D | E | F | A | B | C | D | E | F | |
| | | | | | | | | | | | | |

| IV FAMILY RELATION-SHIP | SEX | | AGE | NATIVITY | | | | EMPLOYMENT STATUS | | | | WAGES | HELPER APPR | REGULAR OCCUPATION | REGULAR INDUSTRY | TEMPORARY OCCUPATION | TEMPORARY INDUSTRY | V UNEMPLOYED OR TEMPORARILY EMPLOYED | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | MALE | FEMALE | | FOREIGN BORN | NATIVE | | | EMPLOYED | | | UNEM-PLOYED | | | | | | | PREV EMPL'D | DATE OF LOSING REGULAR JOB | SEEKING WORK | IF NO WHY NOT |
| | | | | | WHITE | COLORED | OTHER | FULL TIME | PART TIME | ODD JOBS | | | | | | | | | | | |
| A | B | C | D | E | F | G | H | I | J | K | L | M | | N | O | P | Q | R | S | T | U |
| HEAD | | | | | | | | | | | | | | | | | | | | | |
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age at last birthday was entered.

The nativity was then checked, four classes being recognized:

a. Native White
b. Native Colored
c. Native of Other Race
d. Foreign Born

This is really a Race-Nativity Classification. If there were an appreciable number of colored aliens, it might have been desirable to supplement the classification by the addition of Foreign Born Colored, Foreign Born Other Race, etc. The classification proved quite satisfactory, however, and was used in the SS-1B Schedule later. In future surveys, it might be found desirable to gather, in addition, the nativity and race of the parents.

The section of the schedule devoted to employment status was the key to the entire Survey. It was an unemployment count, and the correct classification of the population in reference to the labor market was and still is a matter of debate. Theoretically, the entire population might be arbitrarily divided into those gainfully occupied and those not gainfully occupied, the latter class including workers who have lost their jobs, housewives, students, children, the aged, the disabled, and all other persons who for one reason or another are not selling labor power. This classification would be a meaningless one, however, if we did not distinguish between that section of the Not Gainfully Occupied who, under present conditions, are not potential workers and those who are. However if we arbitrarily exclude children under 16 not working, and housewives neither working nor looking for work, we immediately narrow the field under study and present a classification that has meaning, this is what was done. The enumerators checked all persons except the ones mentioned above as Employed Full-Time, Employed Part-Time, Employed at Odd Jobs, or Unemployed.

Later, with the help of the remaining data on the schedule, we were able to make finer distinctions and to define our employables classes in such a manner as to avoid either adding classes of unemployables which should not have been added or excluding important sections of job seekers who have been omitted in many previous statistical inquiries.

The full-time workers were those who were working at least thirty hours per week. Those who were working fewer hours were classed as part-time workers, while those who had only intermittent employment at a variety of jobs were classed as working at odd jobs. If a person were unemployed, he was checked as such and the enumerator then asked whether or not he had been previously employed and if he was actively seeking work at the time the Survey was being taken. If the answer to the latter question were "No," an effort was made to determine the reason for his not seeking work. In addition, unemployed workers were asked for the month and the year in which they lost their last regular job.

Columns were provided for regular occupation and regular industry. However, since large numbers of persons were working at temporary jobs, it was found necessary to add the temporary occupation and industry as well. This was entered following the regular occupation and industry, between brackets. It was decided, likewise, that wages per week could be obtained. These were gathered in Philadelphia but not in Allegheny County. Considering the usual resistance on the part of persons being enumerated, a surprisingly large proportion of those employed reported their weekly wages. The wage was entered in the left margin of the schedule just before Family Relationship.

A summary of the total number of persons in the household and the total number in each employment status appeared on the schedule and was filled out in the field.

A more complete discussion of the tabulation of the data gathered in the SS-1A Survey will follow, but one or two points should be noted here because certain tabulating difficulties made schedule revision desirable. No place had been provided for a schedule number so that the top margin of the schedule had to be used by the coding clerks who kept a perpetual check on the schedules received and coded. In addition to the summary information on the employment status of various members of the household, a summary of the household relationships was also desirable. This made is necessary for another group of coders to stamp such a table on the face of the schedule and count the number of:

1. Additional families
2. Persons in the additional families
3. Non-family relatives
4. Lodgers
5. Resident servants
6. Persons in the head family

Schedule SS-1B

On the basis of the experience with SS-1A, both in the field and in the tabulating division, the following improvements were incorporated in Schedule SS-1B used in the remaining counties of the State:

1. Spaces were provided for schedule number and city block number.
2. A small signature table was inserted in the upper right-hand corner for the purpose of production control of the schedules during coding.
3. The Household Summary mentioned above was made a part of the schedule and thus part of the enumerator's job rather than the coder's.
4. Columns were provided for Wages, Helper-Apprentice (which had formerly been handled by a special coding group), Temporary Occupation and Temporary Industry.

These proved to be most advantageous changes although, even with SS-1B, additional experience made it evident that still further development of the schedule was desirable. Spaces had not been provided for any dates except the date of losing last regular job. Nevertheless, apparent

changes in the labor market made it desirable to find out how many persons had returned to work either at temporary or regular jobs since the time of the Philadelphia and Allegheny surveys and also how many persons had lost temporary jobs, particularly because of changes in the Administration's work program. April 3rd, a bulletin was sent to all county headquarters. It follows in full:

ADDITIONAL INSTRUCTIONS FOR FILLING OUT SCHEDULE SS-1B

Section V. Column S (Date Lost Regular Job)

(1) For all persons now employed Full Time or Part Time at a temporary job, give in addition to the date lost job - the date the present job was obtained. Encircle this date.

Example: The person being enumerated is now working full time at a C. W. A. job. He lost his last regular job on September 15, 1930, and obtained his present job January 22, 1934.

The following entries will appear in Column S;

9/30 1/34

(2) For persons now employed Full Time or Part Time at their Regular Job, and have found such employment since January, 1933, give the date the present job was obtained - encircle the date.

Example: The person being enumerated is now working full time at his regular job. It is found that he obtained this job on February 12, 1934. The following entry will appear in Column S: 2/34

(5) For persons now unemployed who have had Temporary Employment until recently (e.g. C. W. A.), give in addition to the date lost last regular job and date temporary job was obtained - the date the person was discharged from temporary job in Column Q. Encircle this date.

Example: The person being enumerated is now unemployed but worked from January 3, 1934, to March 30, 1934, for the C. W. A. as a bricklayer. He lost his regular job on May 14, 1932.

The following entries would appear:

| STATUS Unemp. ( ) | WAGES | Helper Apprentice | REGULAR OCCUPA-TION | REGULAR INDUSTRY | TEMPORARY OCCUPA-TION | TEMPORARY INDUSTRY | V UNEMPLOYED OR TEMPORARILY EMPLOYED Prev. Empl'd | Date of Losing Reg.Job | Seeking Work |
|---|---|---|---|---|---|---|---|---|---|
| L | M | | N | O | P | Q | R | S | T |
| | | | Brick-layer | Building Con-struction | Brick-layer | C.W.A. (3/34) | Yes | (1/34) 5/32 | Yes |

The object of this addition is to secure data that will enable us to make the present survey comparable to the one completed in Philadelphia and Allegheny Counties and also obtain information concerning employment since January, 1933.

E. H. OCKER,

Assistant Director of Social Surveys

Instructions in Use of Schedules and Spot Checking

Elsewhere, under the training of personnel, the instructions given to the enumerators are discussed; but it is worth mentioning here that, by means of rather detailed instruction books and close supervision, enumerating errors were kept at a minimum. To make certain that the work was being done accurately, a constant check was made by qualified "spot" checkers. A very small number of households had to be re-enumerated because of error. Furthermore, every office in the State had its own group of editors who went over the schedules for omissions and consistency. They had received mimeographed instructions from Harrisburg to insure a standard method of editing the data.

Only one change in class definitions was made and that was a minor one. In collecting the data for the SS-1A no entries were made beyond column H for "children under 16 not working" while in SS1-B this class was changed so as to exclude from further consideration only those "children under 16 who had never worked and were not seeking work." (Bulletin #8, March 23, 1934.)

In all other respects, the point of view adopted in SS-1B was that of SS-1A. The modifications made a schedule that simplified enumerating and coding.

Tabulating the Data from SS-1A and SS-1B

The quantity and variety of information gathered made machine tabulation absolutely necessary if tabulation was to be completed within reasonable time. This immediately imposed further limits on the form of the final statistical product. The Hollerith system of tabulation depends on the sorting and counting of standard cards in which holes are punched. The area of the cards used by Social Surveys consisted of eighty columns of ten digits each. ("X" and "Y" although not printed on the card can, in

addition, be punched in the upper margin.) These columns were grouped into "fields," each field representing an item on the schedule. Each card represented a person, while the card punched for the Head of a Household, in addition to representing him as a person, contained a summary of the information for the household. This allowed great flexibility, since we could change our unit at will from the person to the household.

Coding

Before any of this information could be transferred, however, it was necessary that the schedules receive a final editing; that certain computations be made; and that much of the information be coded for the key-punch operators. This was done by the coding departments, one in Harrisburg and one in Philadelphia. The organization, training, and management of these departments is discussed elsewhere but one feature of the organization should be noted here: Line production was obtained without sacrificing accuracy, by dividing the coding clerks into groups. Each group was assigned a special phase of the work and was expected to become expert in that particular field. To insure accuracy, each group had its inspector and the work of the entire department was checked by a separate inspection group.

Coding SS-1A

The SS-1A schedules passed through seven groups before it was ready for the key-punch operators (All the coding was done with colored pencils.)

Group I Kept a master tally of schedule numbers and assigned the correct number to each new schedule.

Group II Edited the entire schedule for consistency and entered the proper number of "O's," "X's," or "Y's" where this information had to appear.

Group III Coded all the data on the schedule except "Occupation" and "Industry".

Group IV Coded Occupation.

Group V Coded Industry.

Group VI Stamped a Household Summary Table on the Schedule, made the necessary computations and entered the figures on the table.

Group VII Inspected the coding of the entire schedule.

General Discussion - Coding SS-1A

Very detailed coding instructions were prepared so that the coding of information would be rigidly standard. The coders were instructed to "Reject" schedules about which they were in doubt. These rejected schedules were routed to a special coding group that coded temporary occupations and industries, self-employed persons, helpers, apprentices, and, in addition, handled other special coding problems. The supervisor of this group was also in charge of the occupation and industry codes and was the only person authorized to make additions to them.

In a survey of this size it was inevitable that a certain amount of information would be refused and that certain sections of the schedule would have to be left blank because the questions on the schedule did not apply to that particular class of persons. Nevertheless, an entry had to appear under every heading of the schedule so that the punching sequence could be adhered to. This was handled by the use of "0's," "X's," "Y's," blanks, and "lining out."

In general, when information should have appeared but was lacking, as many zeros were entered as there were digits in the field. Where the space was blank because no information should appear "X's" were used. (Y's were used for certain cards to indicate that practically all information was missing.) For certain classes of persons for which there were no entries beyond column H an "X" was placed in column I and a line drawn to the right margin of the schedule. (See opposite page.) These entries

were made by Group II coders.

The number of digits in that field of the Hollerith card assigned to a particular section determined the number of coded digits in the entry. In most sections this was relatively easy with the following exceptions: In the case of Occupations and Industries it limited the classification to 999, while for the "date of losing last regular job," to which two digits had been assigned, it limited the possible number of years (second column) to ten, while the twelve months were coded by using X and Y. Thus the year 1925 was coded "5", 1926 as "6", 1930 as "0", etc., while January was "1", October "0", November "X" and December "Y". Thus a coded entry "63" indicated that the worker had lost his job June, 1933 and "00" October, 1930. This of course necessitated some other way of showing that the date was unspecified (either month, year, or both) or that no date should appear since the person was employed. Where the month was missing a dash ( - ) was placed in the left of the column; where the year was missing a dash ( - ) was placed in the right of the column, while if I, J, or K were checked on the schedule (indicating employment) a dash "X" (-X) was coded.

Problems of the Various Coding Groups, SS1A

Group I was responsible for the correct numbering of all schedules, which was a task of considerable magnitude considering the number of households in Philadelphia and Allegheny Counties.

Perhaps one of the most difficult jobs in the entire department was that of Group II. Their work involved checking the entire schedule for consistency and grouping the persons who formed the additional families, (where the enumerator had failed to do so. This was done so that Group VI might stamp the household classification on the face of the schedule, count the lines, the persons between the lines, etc., and make the coded entries. Checking for consistency was not as easy as it apparently should be, since

it meant in some cases not only counting check-marks but counting combinations of check-marks. The following excerpt from Group II instructions should make this clear:

> "(1) Check the total number of persons in the household given in II-A (in household) against the total number of persons listed in III-A (Family Relationship). If they do not agree, reject the schedule.
>
> (2) Check Section II, Columns B, C, D (Employed) against Section III Columns I, J, K, respectively.
>
> The total number of check marks in Section III, Column I (Full Time) must equal the number entered in Section II, Column B.
>
> The total number of check marks in Section III, Column J (Part Time) must equal the number entered in Section II, Column C.
>
> The total number of check marks in Section III, Column K, (Odd Jobs) must equal the number entered in Section II, Column D.
>
> If the above do not agree, reject the schedule.
>
> If the total is 0 enter "00" in the proper column, Section II.
>
> (3) Check Section II, Column E and F against the entries in Columns L and O.
>
> The total of Section II, Columns E and F (Now Seeking Work) must equal the total number of check marks in Section III, Column L.
>
> The number indicated in Section II, Column E (Previously Employed) must equal the total number of times the following combination appears on schedules: A "Check" in Section III, Column L (Unemployed) and "Yes" in Section III, Column O (Previously Employed).
>
> The number indicated in Section II Column F (Not Previously Employed) must equal the number of times the following combination appears in the schedule: A "Check" in Section III, Column L (Unemployed) and "No" in Column O (Previously Employed).
>
> If the above do not agree, reject the schedule.
>
> (4) After the entries in Section II, Column B, C, D, E, F have been checked enter the total of these entries in the blank column to the right of Column F; for example, if the figure in Column B is "0," in "C"

is "2," in "D" is "1," in "F" is "2," enter "5" in the blank column (0 plus 2 plus 1 plus 2 equals 5)."

The work of Group III was dependent upon speed and accuracy rather than judgment. The codes were simple, with the exception of the date code described above. After a short period, all of the Group III coders knew instinctively when zeros should be placed in front of numbers to provide the proper number of digits for the key-punch operators. The family relationship code ranged from "01," Head, to "43" Wife. For relatives not otherwise classified, "44" was used. The "Reasons for not seeking work" comprised numbers from "02" to "50." Males were coded "1" and females "2." The Nativity classification and Employment Status were coded as follows:

| Nativity Code | | Employment Status Code | |
|---|---|---|---|
| Foreign Born | - 1 | Employed Full Time | - 1 |
| Native White | - 2 | Employed Part Time | - 2 |
| Native Colored | - 3 | Employed Odd Jobs | - 3 |
| Native Other Race | - 4 | Unemployed | - 4 |
| Unspecified | - 0 | Unemployable Head | - X |
| | | Unspecified | - 0 |

Where the entry was an answer to a question, Yes was coded "1" and No was coded "2."

The Occupation Code used by Group IV was divided into the following major classes:

| Code Range | Class |
|---|---|
| 001 - 278 | Mechanical and Hand, Trades, Skilled |
| 301 - 340 | Mechanical and Hand Trades, Unskilled |
| 400 - 430 | Office and Clerical Workers |
| 500 - 630 | Transportation and Trade Pursuits |
| 600 - 630 | Domestic and Personal Service |
| 700 - 799 | Executive and Professional |
| 800 - 850 | Public Service Occupations |

Not all of these numbers were filled in, since from time to time new occupations were found which necessitated additions to the code.

The same type of code was used by Group V for Industry.

# SECTIONS OF THE SCHEDULE CODED BY EACH CODING GROUP

## SCHEDULE SS-IB

| COUNTY | BORO CITY OR TOWNSHIP | DISTRICT OR TOWN | BOOK NUMBER | CITY BLOCK | SCHEDULE NUMBER |
|---|---|---|---|---|---|
| Adams 01 | Gettysburg 014 | Ward 2 002 | 4 004 | 12 012 | 01 |

**GROUP I**

NAME / ADDRESS: John Doe / Hanover St.

ENUMERATOR NAME / NUMBER: Frank Smith / 972

LEAVE BLANK

| CODING GROUP | SHIFT NO. | STATION NO | DATE |
|---|---|---|---|
| 1 | | | |
| 2 | | | |
| 3 | | | |
| 4 | | | |
| 5 | | | |
| 6 | | | |
| 7 | | | |

HOUSEHOLD CLASSIFICATION

| NO ADDITIONAL FAMILIES | NO PERSONS IN ADDITIONAL FAMILIES | NON-FAMILY RELATIVES | NO. OF LOODGERS | NO RESIDENT SERVANTS | NO PERSONS IN HEAD FAMILY |
|---|---|---|---|---|---|
| A 1 | B 03 | C 1 | D 01 | E 1 | F 03 |

NUMBER OF PERSONS

| IN HOUSEHOLD | EMPLOYED: FULL TIME | EMPLOYED: PART TIME | EMPLOYED: ODD JOBS | UNEMPLOYED: PREV EMPLOYED | UNEMPLOYED: NOT PREV EMPLOYED | B+C+D+E+F |
|---|---|---|---|---|---|---|
| A 09 | B 02 | C 01 | D 01 | E 01 | F 01 | 06 |

**GROUP II**

| | FAMILY RELATIONSHIP | SEX: MALE | SEX: FEMALE | AGE | NATIVITY: FOREIGN BORN | NATIVE: WHITE | NATIVE: COLORED | NATIVE: OTHER | EMPLOYMENT STATUS: EMPLOYED FULL TIME | EMPLOYED: PART TIME | EMPLOYED: ODD JOBS | UNEMPLOYED | WAGE | HELPER APPR | REGULAR OCCUPATION | REGULAR INDUSTRY | TEMPORARY OCCUPATION | TEMPORARY INDUSTRY | UNEMPLOYED OR TEMPORARILY EMPLOYED: PREV EMPLOYED | DATE OF LOSING REGULAR JOB | SEEKING WORK | IF "NO" WHY "NOT" |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | A | B | C | D | E | F | G | H | I | J | K | L | M | | N | O | P | Q | R | S | T | U |
| X | HEAD 01 | ✓1 | | 59 | | 2✓ | | | 1✓ | | | | 050 50.00 Per W | X | Cashier 404 | Banking 841 Co. | X | | X | --(--) | X | X X |
| | Wife 43 | 2 | ✓ | 55 | | 2✓ | | | X | | | | | | Housewife | Home | | | | | | |
| X | Son 35 | ✓1 | | 20 | | 2✓ | | | | | 3✓ | | 1098 810 Per W | X | Student X | College X | Hauler 626 | Restaurant 807 | X | | X | X X |
| | Daughter 09 | 2 | ✓ | 25 | | 2✓ | | | X | | | | | | Housewife | Home | | | | | | |
| 127 | Son-in-law 40 | ✓1 | | 27 | | 2✓ | | | | 2✓ | | | 2000 020 Per W | X | Salesman 570 | Surgical 193 Supply Co. | Salesman 572 | Drug 591 Co. | Yes 1 | 3/19 39 (61) 4/21 | Yes 1 | X X |
| | Grandson 37 | ✓1 | | 3 | | 2✓ | | | X | | | | | | | | | | | | | |
| X | Cousin 44 | 2 | ✓ | 51 | | 2✓ | | | | | | 4✓ | X | X | X | X | X | | No 2 | -X(-X) | No 2 | Epileptic 12 |
| 143 | Lodger 45 | ✓1 | | 60 | | 2✓ | | | | | | 4✓ | X | X | Contractor 536 | Building 759 Const. | X | | Yes 1 | 90(-0) 4/30 | No 2 | Indep Income 19 |
| X | Maid 46 | 2 | ✓ | 22 | | | 3✓ | | 1✓ | | | | 6006 Per W | X | Domestic 622 | Private 933 Family | X | | X | --(--) | X | X X |

GROUP III | GROUP IV | GROUP V | GROUP IV | GROUP V | GROUP III | GROUP VI | GROUP III

| Code | Class | Code | Class |
|---|---|---|---|
| 001-034 | Food Products | 301-329 | Chemical and Allied Products |
| 043-089 | Textiles | 341-551 | Wholesale Trade |
| 101-127 | Metal Products Primary | 557-671 | Retail Trade |
| 136-195 | Metal Products Fabricated | 675-700 | Transportation |
| 201-223 | Lumber, Timber, Wood Products | 701-723 | Public Utilities |
| 233-246 | Paper and Printing | 731-751 | Mines and Quarries |
| 250-263 | Leather, Rubber and Composition Goods | 757-779 | Construction |
| 271-291 | Clay,Glass,Stone Products | 785-798 | Contracting |
| | | 804-809 | Hotels and Restaurants |
| | | 821-837 | Government |
| | | 841-852 | Insurance and Finance |
| | | 854-889 | Service |
| | | 900-963 | Miscellaneous |

The problems in using the Occupation and Industry codes was that of the general category. When only three digits were supplied, it was inevitable that general classes had to be created to take care of indefinite information or small industries:e.g.,Lumber Products "N. E. C.," Steel Products, "N. E. C.," etc. The natural temptation for the coders to use these as "catch-alls." The inspectors were able to control this tendency to a considerable degree, but in spite of the closest check some of the distinctions were lost. This has since been remedied by writing detailed definitions of each class so that in any future surveys the coding of occupation and industry should be much easier.

Coding SS-1B

The changed form of the schedule, and the variety of places from which the schedules came made necessary a slight reorganization of the department. New instructions were written and new group duties assigned. A comparison of the jobs involved in coding SS-1A with those involved in coding SS-1B, makes readily apparent the small amount of change:

| Group | Coding SS-1A | Coding SS-1B |
|---|---|---|
| 1-A | | Control of Incoming Schedules<br>Numbering of Schedules<br>Stapling of Productive Control Sheets in Back of Books |

| Group | Coding SS-1A | Coding SS-1B |
|---|---|---|
| I<br>II | Schedule Numbering<br>Editing, Coding "X", etc. | Coding Identification Information<br>Editing, Coding "X," etc. |
| III | Coding all information Except Occupation and Industry | Coding all information except Identification, Occupation, Industry, Dates and Duration of Unemployment |
| IV | Coding Regular Occupation | Coding Regular and Temporary Occupation and Helper-Apprentice |
| V | Coding Regular Industry | Coding Regular and temporary Industry |
| VI | Stamping Household Composition and Making Entries on Face of Schedule | Coding Dates and Calculating Duration of Unemployment |
| VII | Inspection | Inspection |
| "Special" | Coding Temporary Occupation, Temporary Industry Helper-Apprentice | |

The only tasks which were really new were the new "date" and duration of unemployment coding and the more detailed coding of the State's 2500 civil subdivisions.

This former requires a few sentences of comment. In addition to the Date of Losing Last Regular Job, the enumerators had obtained the Date of Re-employment and the Date of Losing Temporary Job for some workers. These were coded with the same date code described above. In order that the later analysis of the date might be simplified, tables were computed from which the Group VI coders might read the total number of months of unemployment. This was prefixed by a "1" or "2," depending upon whether or not the person in question had had a temporary job during the period of unemployment. This was then coded in the left margin of the schedule in the same position that wages had occupied on the SS-1A. Where no duration should have appeared or where it was impossible to determine it an "X" dash (X -) was coded in the left margin of the schedules. The large date

# THE CARD PUNCHING SEQUENCE FOR SCHEDULE SS-1A

2 SHIFT · 3 OPERATOR · 4 SCHOOL DIST. NO. · 5 SCHOOL BLOCK NO. · 6 SCHEDULE NO. · 7 CITY BLOCK NO.

| COUNTY | CITY OR TOWN | DISTRICT | ENUMERATOR | BOOK NO. | NAME / ADDRESS | NUMBER OF PERSONS: IN HOUSE-HOLD | EMPLOYED: FULL TIME | EMPLOYED: PART TIME | EMPLOYED: ODD JOBS | NOW SEEKING WORK: PREV. EMPLOYED | NOW SEEKING WORK: NOT PREV. EMPLOYED | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 8 | 9 | 10 | | 11 | | A 12 | B 13 | C 14 | D 15 | E 16 | F 17 | 18 |

| FAMILY RELATIONSHIP | SEX: MALE | SEX: FEMALE | AGE | NATIVITY: FOREIGN BORN | NATIVE: WHITE | NATIVE: COLORED | NATIVE: OTHER | EMPLOYMENT STATUS: EMPLOYED FULL TIME | EMPLOYED: PART TIME | EMPLOYED: ODD JOBS | UNEMPLOYED | OCCUPATION | INDUSTRY | FOR UNEMPLOYED PERSONS: PREV. EMPLOYED | IF EVER PREV. EMP. STATE DATE OF LOSING REG. JOB | SEEKING WORK? | IF 'NO' WHY 'NOT'? |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| A | B | C | D | E | F | G | H | I | J | K | L | M | N | O | P | Q | R |
| 19 | 20 | | 21 | | 22 | | | | 23 | | | 24 | 25 | 26 | 27 | 28 | 29 |

1 WAGES PER WEEK

30 PUNCH "O"

31

32

33

34

35

36

NO. ADDITIONAL FAMILIES
NO. PERSONS IN ADD. FAMILIES
NON-FAMILY RELATIVES
NO. OF LODGERS
NO. OF RESIDENT SERVANTS
NO. PERSONS IN HEAD FAMILY

**PUNCHING SEQUENCE FOR SECONDARY CARDS**

PUNCH ITEMS 1 TO 11 INCLUSIVE
SKIP ITEMS 12 TO 18 INCLUSIVE
PUNCH ITEMS 19 TO 30 INCLUSIVE
PRESS RELEASE KEY AND REMOVE CARD

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charts proved to be unwieldy and the coding clerks themselves showed considerable ingenuity in developing substitutes. The Philadelphia department finally developed a slide rule for computing durations of unemployment.

Card Punching

The checked schedules were sent to the key-punch operators who were equipped with Electro-Magnetic Key-Punch machines. Cards were punched for all persons showing an employment status and for heads of households who had cards punched for them regardless of employability. If the key-punch operator saw a coded entry in the left margin of the schedule, he punched a card, but if no entry appeared, the line was skipped. In all cases the total number of cards punched had to equal the number of persons employed plus the number of employable unemployed (previously and not previously employed), and might exceed that total by one if the head of the household happened to be unemployable.

It would have been desirable to punch cards for every person enumerated in the Survey but the limitations of the time and space made the above procedure the only practicable thing to do. In this way we had to deal with only about one half the number of cards that we would have had otherwise, and only lost a few tabulations of secondary importance. In Lackawanna and Luzerne counties we did not follow this procedure but punched cards for every person on the schedule. This enabled us to get age, sex, and nativity distributions for the entire population of these counties with considerable ease, something which otherwise involved either hand tabulation or the use of the Voting Machine.*

Considerable space was devoted to the discussion of "All" coding for the reason that this was of extreme importance to the key-punch operators. The key-punch machine is so constructed that a slip-bar can be inserted in the

*Discussed in reports of the Research and Planning Department.

# THE CARD PUNCHING SEQUENCE FOR SCHEDULE SS-1B

3 OPERATOR

2 SHIFT

1 DURATION OF UNEMPLOYMENT

| COUNTY | BORO CITY OR TOWNSHIP | DISTRICT OR TOWN | BOOK NO. | CITY BLOCK | SCHEDULE NO. | NAME / ADDRESS | ENUMERATOR NAME / NUMBER |
|---|---|---|---|---|---|---|---|
| 4 | 5 | 6 | 7 | 8 | 9 | | |

LEAVE BLANK

| CODING GROUP | SHIFT NO. | STATION NO. | DATE |
|---|---|---|---|
| 1 | | | |
| 2 | | | |
| 3 | | | |
| 4 | | | |
| 5 | | | |
| 6 | 23 PUNCH "0" | | |
| 7 | | | |

| HOUSEHOLD CLASSIFICATION | | | | | | NUMBER OF PERSONS | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | EMPLOYED | | | UNEMPLOYED | | |
| NO. ADDITIONAL FAMILIES | NO. PERSONS IN ADDITIONAL FAMILIES | NON-FAMILY RELATIVES | NO. OF LODGERS | NO. RESIDENT SERVANTS | NO. PERSONS IN HEAD FAMILY | IN HOUSEHOLD | FULL TIME | PART TIME | ODD JOBS | PREV. EMPL'D | NOT PREV. EMP'D | B+C+D+E+F |
| 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 |

| RELATION - | SEX | | AGE | NATIVITY | | | | EMPLOYMENT STATUS | | | | WAGES | BLANK | REGULAR OCCUPATION | REGULAR INDUSTRY | TEMRORARY OCCUPATION | TEMPORARY INDUSTRY | UNEMPLOYED OR TEMPORARILY EMPLOYED | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | NATIVE | | | EMPLOYED | | | | | | | | | | | | | |
| | MALE | FEMALE | | FOREIGN BORN | WHITE | COLORED | OTHER | FULL TIME | PART TIME | ODD JOBS | UNEMPLOYED | | HELPER APPR. | | | | | PREV. EMPL'D | DATE OF LOSING REGULAR JOB | SEEKING WORK? | IF 'NO' WHY 'NOT'? |
| A | B | C | D | E | F | G | H | I | J | K | L | M | | N | O | P | Q | R | S | T | U |
| HEAD | 25 | | 26 | | 27 | | | | 28 | | | 29 | 30 | 31 | 32 | 33 | 34 | 36 | 37 | 39 | 40 |
| 24 | | | | | | | | | | | | | | | | | 35 | | 38 | | |

**PUNCHING SEQUENCE FOR SECONDARY CARDS**

PUNCH ITEMS 1 TO 9 INCLUSIVE
SKIP ITEMS 10 TO 22 INCLUSIVE
PUNCH ITEMS 23 TO 40 INCLUSIVE
PRESS RELEASE KEY AND REMOVE CARD

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machine. This is notched in a manner which makes the machine skip over certain fields when the "X" key is depressed. Skip-bars must be especially designed for each type of card used. In both the SS-1A and SS-1B, household data was punched on the head card that was skipped on all secondary cards by depressing the "X" key after the identification information had been punched on the cards.

The general procedure of key-punching did not vary from schedule SS-1A to schedule SS-1B. If the key-punch operator followed the punching sequence and if the schedule had been correctly coded, each item was punched in its proper column. As an aid in checking whether or not the sequence is correctly followed, a "punch 0" column is frequently provided. An inspector should be able to run a needle through the "0" column of a pack of correctly punched cards.

Card Punching Sequence SS-1A

The punching sequence for the SS-1A was as follows:

1. The coded entries in the left margin were punched.

2. The Shift and Operator's Number.

3. The coded items on the top of the schedule.

4. County, City or Township, and Book Number.

5. Either:

   (a) On head cards the household summary was punched
   (b) On secondary cards an "X" was punched which skipped all these fields.

6. The whole line of coded entries for the individual. (Some of the fields could be skipped by one depression of the "X")

7. Punch "0".

8. Either:

   (a) On head cards the summary of information on the lower right of the schedule was punched.
   (b) On secondary cards the release key was depressed and the card removed.

Card Punching Sequence SS-1B

The punching for SS-1B was as follows:

1. The coded entry on the left margin was punched.

2. Shift and Operator's Number

3. Identification Information

4. Either:
   (a) On head cards the household summary information was punched
   (b) On secondary cards an "X" was punched which skipped all these fields.

5. The whole line of coded entries (When there had been no temporary employment, an "X" was punched in Temporary Occupation which made it possible to skip these fields.)

Double Punching

One type of coded entry which has not been discussed because of its relative rarity is the fractional coded entry. This was used for certain combinations of "Helper-Apprentice-Self-Employed" data. The following appears in Group IV (SS-1B) Coding Instructions:

"Code Helper, Apprentice Column as follows:

| | |
|---|---|
| Blank | X |
| Regular Helper | 1 |
| Regular Apprentice | 2 |
| Regular Self Employed | 3 |
| Temporary Helper | 4 |
| Temporary Apprentice | 5 |
| Temporary Self Employed | 6 |
| Regular Helper and Temporary Helper | 1/4 |
| Regular Helper and Temporary Apprentice - | 1/5 |

.....
(Proceed similarly with other combinations)"

To punch an entry of this sort, it was necessary to double punch the "Helper-Apprentice" column of the card by stopping the carriage of the machine.

In discussing the sample selection of schedules for the University of Pennsylvania which were assigned school block and school district numbers,

mention was made that these cards were punched in duplicate. To avoid duplications in the regular file, the last column of the duplicate card was punched "X" in addition to the regular entry.

Card Inspection

The punched cards were placed in the schedule book and sent to the card inspectors who compared the coded entries on the schedule with those on the card. Philadelphia inspectors were assisted by a Mechanical Interpreter which prints the punched digits on the top margin of the card, but those in the Harrisburg office depended entirely on the punched item itself. Although considerable skill was developed in this type of inspection it is probable that an "interpreter" increases accuracy and is an aid to the inspectors' efficiency.

Although little space need be devoted to describing the detailed methods of inspection, it is a function of extreme importance. As originally planned, each of the producing units had its companion control unit. Just as Group VII of the Coding Department was created to insure correctly coded schedules and send them back until they were correct, so the Card Inspection Department checked not only the card punching but was able to serve as an additional check on Group VII. At the end of the production line were the check runs of the Sorting Department which were a final safeguard against error. Thus, each Department had its "Counter-Department" and as the data went through the production line each new group served as checks on all preceding groups.

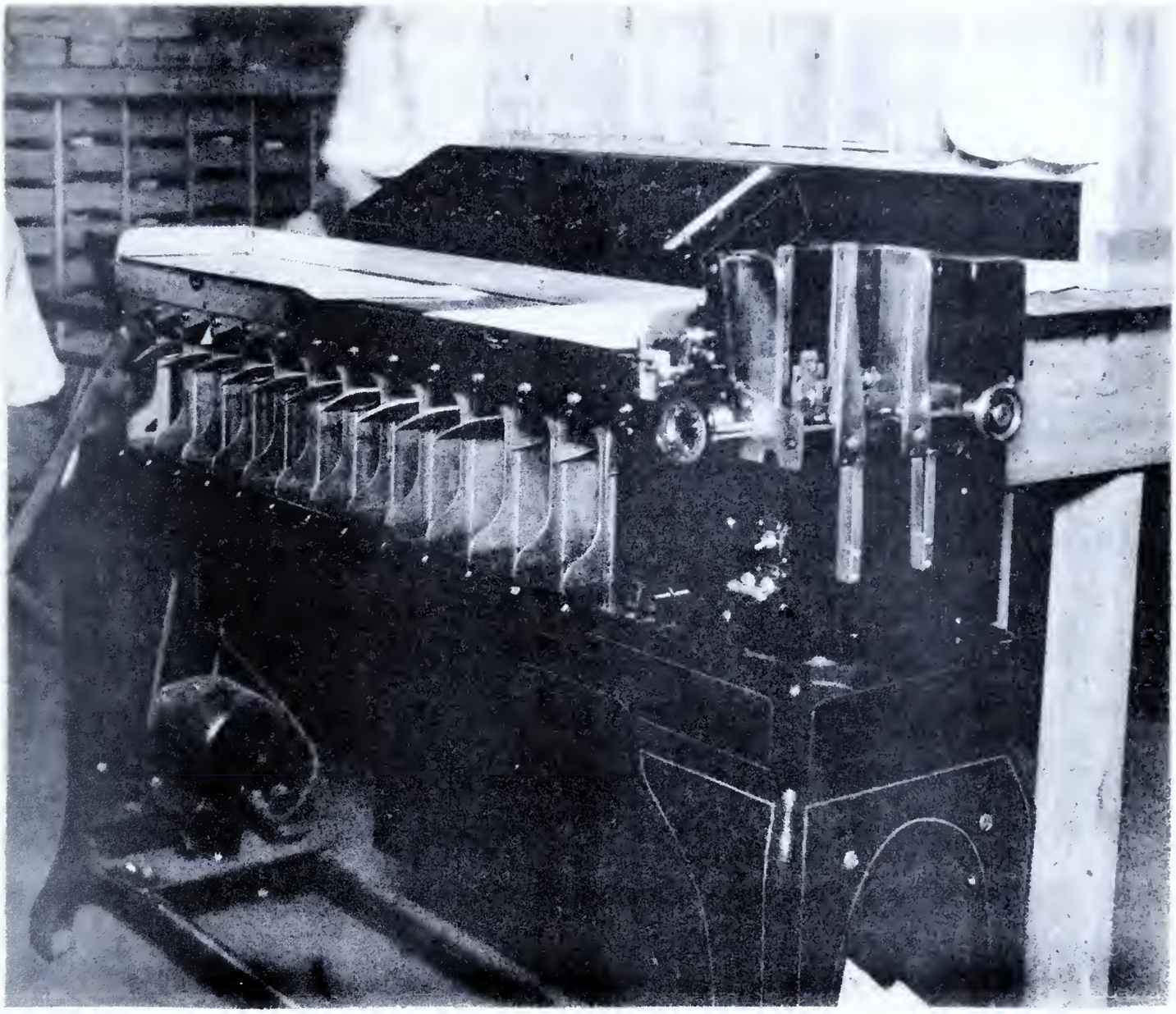
Sorting and Counting Procedure

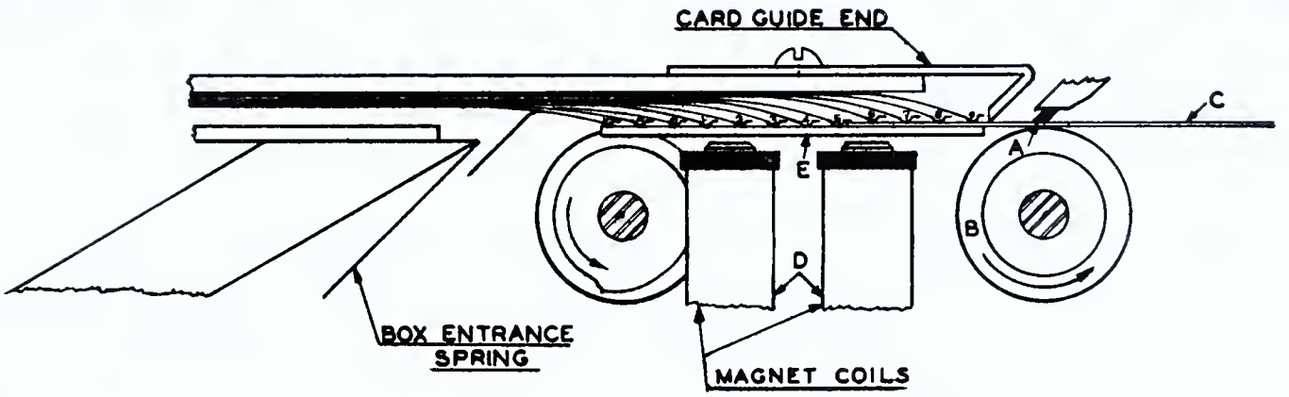
The largest of the tabulating jobs comes after the cards are punched and inspected. It is then necessary to decide what the significant classes are and to sort the cards into these classes. With eighty columns of data the cross classifications that can be made run into the thousands, but only

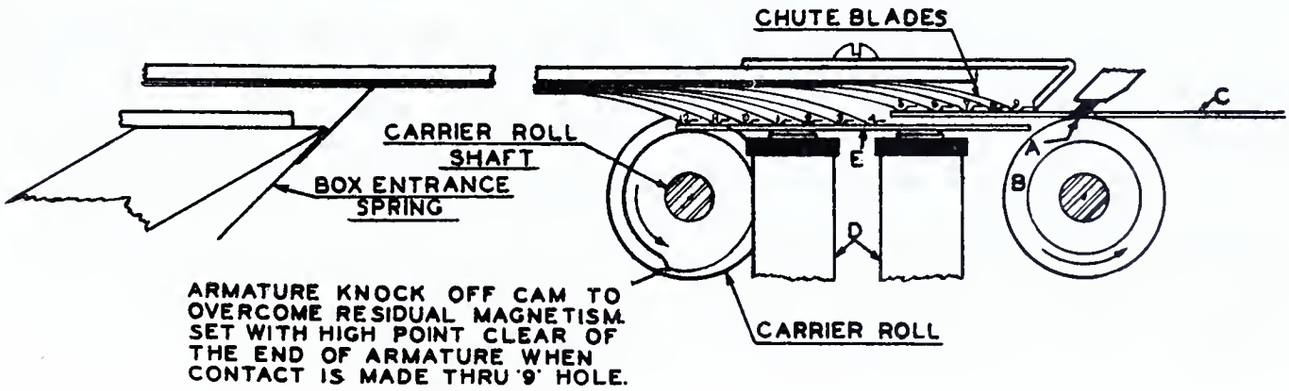
a small proportion of these have meaning. Of those that have meaning, some are not particularly relevant and still others are so difficult to obtain that exclusion from consideration is desirable.

The following description of the sorting machine, written by an engineer on the staff, will enable the reader to follow the procedure of sorting with a better understanding of the principles involved:

> "The perforated cards are fed into this machine horizontally from a magazine and are electrically arranged into any desired relationship. There are thirteen pockets in the machine, twelve of which are for corresponding positions in each column of the card.
>
> "Any desired card may be automatically selected from a group and placed in the corresponding pocket while the remaining cards will be placed in the extra or reject pocket without disturbing their original relationship.
>
> "The principle upon which this machine operates is as follows: Cards are fed horizontally from the magazine and past directly under the card brush and over the brass roller. Assuming that the card is punched "4," it will have traveled under the 9, 8, 7, 6, and 5 chute blades shown. The brush then makes contact completing the selecting circuit. The sorting magnet "D" thus becomes energized, attracting the armature "E," and the 4. 3, 2, 1, 0, 11, and 12 chute blades follow down with the armature "E" thus creating an opening between the 5 and 4 blades through which the card is conveyed by carrier rolls to its respective pocket.
>
> "The horizontal sorter, as manufactured by the International Business Machines Corporation is designed to operate under a rigidly controlled direct current voltage.
>
> "The card count sorter counts the number of cards in each pocket by an electrical relay system and records the count on a counterhead on the machine.
>
> "Several times during the period of operations the alternating current voltage supplied to the motor generator set by the Pennsylvania Power and Light Company of Harrisburg was interrupted. This, of course, interrupted the direct current voltage supplied by the generator set to the machine. The peculiar construction of the sorter causes the counter to become inaccurate when the direct current voltage fluctuates.




CARD GUIDE END
C
A
E
B
D
BOX ENTRANCE SPRING
MAGNET COILS


CHUTE BLADES
C
CARRIER ROLL SHAFT
A
E
B
BOX ENTRANCE SPRING
D
ARMATURE KNOCK OFF CAM TO OVERCOME RESIDUAL MAGNETISM. SET WITH HIGH POINT CLEAR OF THE END OF ARMATURE WHEN CONTACT IS MADE THRU '9' HOLE.
CARRIER ROLL

"The inaccuracies forced upon the machines by the interruptions of current caused several important runs to be re-run entirely on all machines."

If the cards are sorted on any field, a number of independent classes are created which can be sorted on other fields and studied. It is important to have certain major control classes since the filing problem is of extraordinary difficulty if classifications are shifted. Nevertheless, it is impossible to get all of the data that is desirable and still maintain primary distinctions because the number of persons becomes too small to be significant. For example, the primary classification may be the political subdivision; these groups may be broken down on occupation, and these subclasses sorted for age. If the "subdivision-occupation-age" classes are studied for wages, the number of persons in any one class is apt to be insignificant. For example, the total number of barbers in Cambria County between 25 and 29 years of age who are earning thirty dollars per week is not of particular significance because it is too small. On the other hand, the total number of persons in the county between 25 and 29 who are earning thirty dollars a week, or the total number of barbers in the entire State earning this amount, are both important. Thus, the problem is one of keeping the groups of cards small enough to show the desired relationship and yet large enough to be of statistical importance. Furthermore, as the number of breakdowns is increased, the difficulties of sorting and tabulating increase, not proportionately but much faster. As we make our class definition sharper and sharper we really cease to tabulate and begin to list. The class of native colored females sixty years of age who are working part time in Philadelphia for a weekly wage of twelve dollars may be a real one but may include only one person. This means a tally for the one card. Thus it is conceivable that we might make the number of tallies not only equal to but greater than the number of cards being studied.

The problem of unspecified information mentioned before in coding and card punching is important in this connection because it multiplies the classifications many fold. For example, the Sorting Department was using Employment Status as their major classification in Philadelphia. The following subclasses might be expected:

1 - Employed Full Time
2 - Employed Part Time
3 - Employed at Odd Jobs
4 - Unemployed, Previously Employed, Seeking Work
5 - Unemployed, Previously Employed, Not Seeking Work
6 - Unemployed, Not Previously Employed, Seeking Work
7 - Unemployed, Not Previously Employed, Not Seeking Work
8 - Unemployable Heads of Households

Instead of an eightfold classification, however, the unknowns that entered into the tabulation made the classes appear as follows:

1 - Employed Full Time
2 - Employed Part Time
3 - Employed at Odd Jobs
4 - Unemployed, Previously Employed, Seeking Work
5 - Unemployed, Previously Employed, Not Seeking Work
6 - Unemployed, Previously Employed, Unspecified as to whether or not seeking work
7 - Unemployed, Not Previously Employed, Seeking Work
8 - Unemployed, Not Previously Employed, Not seeking Work.
9 - Unemployed, Not Previously Employed, Unspecified as to whether or not seeking work
10- Unemployed, Unspecified as to Previous Employment, Seeking work.
11- Unemployed, Unspecified as to Previous Employment, Not Seeking Work.
12- Unemployed, Unspecified as to Previous Employment, Unspecified as to whether or not seeking work.
13- Unspecified Employment Status
14- Unemployable Heads of Households

Thus, instead of eight classes we had fourteen. Each of these had to be studied by sex, which should have meant eight employment status times, two sex classes, or sixteen classes, but instead involved fourteen employment status times, three sex classes (Male, Female, Unspecified) or fifty-two possible classes. It was desired to carry the analysis one step farther and study the nativity of these persons by sex. There were four nativity-race

classes:

1 - Foreign Born
2 - Native White
3 - Native Colored
4 - Native of Other Race

If there had been no unspecified classes, this would have brought the total number of groups to sixteen times four nativity classes, or sixty-four subclasses, but instead there was an unknown nativity in addition to the above mentioned unspecified classes which made the problem fifty-two times five nativity classes or two hundred sixty possible subclasses, or one hundred ninety-six more classes than we would have if the unknown were not a factor. Not all of these classes contained cards and many of them were small, but they nevertheless complicated the whole sorting problem.

Sorting SS-IA

When the cards for Philadelphia and Allegheny Counties were received by the Sorting Department, a "total card check" was made to determine whether or not all the cards had been received and to check the cards for consistency. The cards were sorted into districts and the summary information on the head cards for the district checked against the information punched on the individual cards. Some of the problems involved are discussed in a report submitted by the supervisors of the Sorting Department.

> "As stated above, the Sorting Department first concerned itself with a 'Total Card Check.' This tally was made showing the total number of cards in the district, the total Heads of Households, Total Unemployable Heads, and Total Secondary Heads. Since cards were punched only for employable persons (heads of families could be unemployable),only the Head cards were used to determine the total Employable. This was done as shown in the following example.

| Cards Punched | Number of Head Cards | Number Employable |
|---|---|---|
| 00 | 5 | 1 |
| 01 | 20 | 20 |

| Cards Punched | Number of Head Cards | Number Employable |
|---|---|---|
| 02 | 15 | 30 |
| 03 | 10 | 30 |
| Total Cards - | 50 | |
| Total Employable in District | | 80 |

The total of employables had to agree with the total number of cards in the district. When an error was found, the operator sorted the cards into schedule sequence and proceeded to needle each schedule until the mistake or mistakes were found. Since some of the districts had an exceptionally large number of cards, needling was a laborious process. Frequently, an operator on the first shift would start to needle a district of cards and this process would continue into the next shift. Sometimes the errors would not be found at the time the second shift was through, and the work would be continued by the first shift operator the next day. The chief objection to this was the fact that we were unable to tie any responsibility for a given job to a particular operator. To eliminate this, we sorted each district of cards into books, giving the operator only a hundred or so cards to deal with. This increased the accuracy to a large extent."

Most of these tallies were of little value as tallies although they served as an additional check on the correctness of the punched Hollerith cards and as a way of training the operators in the use of the sorting machine.

Information by School District - Philadelphia

After experimenting with a series of block and census tract tallies for Philadelphia, it was decided that the unit was too small to enable the department to get the maximum benefit from the sorting machine. So much time was required to tally the information and to recapitulate the city totals that the whole sorting process became extremely slow. The unit finally chosen for Philadelphia was the school district.

The reason for this choice was that it would enable us to get a district comparison with the school block samples punches for the University of Pennsylvania and thereby check their method of sampling.

Since the school district had not been punched on all Philadelphia cards and since there is no general agreement between the Ward and Census Tract boundaries of the city and the school district boundaries, the cards had to be sorted into census tracts and blocks and physically grouped into ten city areas. These were sorted for Employment Status, and the resulting subclasses were sorted on Sex and Nativity columns for the relatively simple "Tally C," (the number of persons of each sex and nativity of each employment status.)

Ages, Wages, Etc., For The City Of Philadelphia

When the above information was compiled, cards of the same Employment Status, Sex, and Nativity for each of the school districts were grouped for the city and sorted for ages (Tally D). When these Ages were tallied, the cards were combined, without regard to Nativity, to form age groups and sorted on Wages per Week, while other machines sorted the cards for the Unemployed, grouped with no regards to Nativity, Sex, or Age distinctions, for the Date of Losing Last Regular Job.

The employed classes were re-sorted into Nativity subclasses and the Wages by Nativity were tallied, while the Unemployed who were not seeking Work were analyzed for the "Reasons" reported.

Sorting Problems

Theoretically, the above should be a relatively easy sorting analysis but, actually, two things made it difficult. First, coding and card punching errors had slipped through in spite of the rigid methods of inspection ; second, the size of the classes led to discrepancies in the totals which, though a small percentage of the total number of cards of the class, accumulated to form an appreciable absolute error for the city.

Final Correction of Coding and Card Punching Errors

These difficulties led to the creation of two small departments which

have since made it possible to get results that are uniformly reliable. Several expert coders, card punchers, and card inspectors were assigned to the Sorting Department to do nothing but correct these errors as they were found by the machine operators. They served as the final barrier to the inaccuracies and inconsistencies inevitable in mass production of statistics.

If the element of error seems to be stressed too much in this report, it must be remembered that with approximately 5,000,000 cards of eighty columns each, the number of punched items totals to 400,000,000. Even an error of 0.5 per cent amounts to 2,000,000. Nevertheless, an error in one item involves re-inspection of the schedule and re-punching of the entire card.

Discrepancies

Two possibilities were open in the solution of the second problem. A certain tolerance could be permitted in the totals, or smaller groups of a known number of cards could be used in the analysis.

The first was undesirable since it was next to impossible to control discrepancies once tolerance was permitted. If the Administration allowed a certain departmental tolerance, the difficulty was only transferred, since this involved some sort of control within the department. If the Department Head would have passed the problem on to the Shift Supervisor, he would have had to have set up inflexible control totals within his shift or permit discrepancies between operators, and if this were allowed the errors accumulated in the totals would have been so large as to make the data unreliable. Furthermore, this would have destroyed the morale of the entire organization which depended on elementary statistical honesty. It may be objected that there should have been no discrepancies. But let 1,430,000 cards be sorted on one column into, let us say, ten groups with the follow-

| | |
|---|---|
| 11,586 | 24,375 |
| 211,432 | 127,665 |
| 121,925 | 9,008 |
| 643,201 | 64,261 |
| 212,933 | 3,614 |

And let each of these be sorted into minor classes on another column. If then, each of these 100 classes are sorted on still another column into 10 sub-classes, the probabilities that the sub-classes will total to their respective minor classes, and that these in turn will total to the major classes, so that they will add up to 1,430,000 rests upon the assumption that 1,000 man-machine units will count the cards correctly and tally them correctly in the proper columns. If there have been no tallies made at each step in the process, and one man-machine unit fails (a 0.1 per cent flaw in the organization)it means that considerable time and effort have been wasted unless one is willing to accept an answer of, let us say, 1,429,987 instead of the correct answer.

There remained the second possibility mentioned above (i.e., that smaller groups of a known number of cards be used in the analysis).However, the organization had already had the experience of running thousands of tallies for small units and then laboriously trying to recapitulate them. This made essential that the tallies be simple and require little pencil work other than the entry of the number of cards in each group. Furthermore, the tallies had to be checked immediately after they had been run to make certain that the total for the class in question did not vary.

A tally inspection group was organized within the Sorting Department and given certain control figures for Philadelphia and Alleghany counties. On each run they made a recapitulation of the tallies as soon as they were complete, and if these checked with the totals from the earlier tallies,the operators proceeded to make the next sorting run. The work of the machine

operators was checked by inspectors who went from machine to machine and checked the tallies, as they were made, for unreasonable figures, incorrectly totaled columns, etc.

A more detailed discussion of the sorting runs themselves will appear below in the discussion of the SS-1B. The value of these first few months of experience was that the sorting difficulties were to experience in the remaining counties of the State were foreshadowed in the treatment of Philadelphia and Allegheny. During this period, for example, the department added a printing tabulator to the equipment. A printed record of cards for the various subdivisions of the State was made so that the control totals could be definitely tied up with the total number of schedules.

SS-1B

As the counties were completed by the key-punch operators and inspectors, a total card check was made similar to the one described above. The next step was the compilation of the total number of households and of persons in the subdivision. These totals were sent to the Archives Department which gathered comparative data from other sources and checked the totals against the estimates made by the field supervisors, the United States Census totals, School Census totals, etc. If they seemed reasonable, the tally was "OK'd" and the department proceeded with the analysis.

Filing of the Cards

The filing of the cards had a large influence in the form of the department and the methods of sorting. When millions of cards that must be kept in order are issued to operators, routed from machine to machine, and rearranged into various subclassifications, it is apparent that there must be some general classificatory scheme. A dynamic filing system that could rapidly be shifted from county, township, district order to age, wage, occupation order, without loss of cards or error in arrangement would unques-

tionably be a most desirable thing,but it imposes difficulties of the first magnitude. It was early agreed that the files would first be in political subdivision order, then in occupation order, then in industry order and finally that the need cards would be arranged by household size. Each of these major periods had or has its special set of tallies, control totals, and special problems of procedure.

Tally Inspection

A set of tallies was first made by political subdivision so that master tables could be prepared for the entire state showing the age,nativity, and sex composition of various categories of employables in different sections of the State. Ordinarily,the recapitulating difficulties would make such treatment inadvisable, but the tally inspection group had developed a degree of skill that made it possible for them to prepare master tallies for the large civil units with considerable speed. The tally clerks were placed under independent supervision so that accuracy would not be sacrificed for production. The completed tallies were checked, and the township and county "recaps" prepared. A report submitted by this department on their methods of work gives an excellent picture of the detail involved.

Unemployment tallies, as received in the initial series of sorting runs, consisted of township, ward, or district tallies of (1) population (total enumerated) and number of persons per household; (2) "C" tallies for each of a maximum 15 classifications of employment status, subdivided as to sex and nativity; (3) "D" tallies for a possible maximum of 150 distinct combinations of employment status, sex, and nativity, listed by age; (4) "E-1" tallies for each sex, in full-time, part-time and odd job employment, listed by wage and by age groups; (5) "F-1" tallies for each nativity classification, with full-time, part-time and odd job workers listed by wage; (6) "E-2" tallies for unemployed classifications, showing duration of unem-

ployment;and (7) "F-2" tallies showing unemployed persons not seeking work, classified as to whether previously employed, and listed by reason for not seeking employment.

Since a complete set of tallies for any district, township or other unit must include each enumerated person on at least two of the above types of tally, it is possible to eliminate all sorting errors by comparing the resulting tallies in pairs. This procedure is facilitated by the use of file tallies,on which the inspection group records comparable counts from each of the various tallies. The method of comparison, and the file tally forms on which compared figures are listed, are as follows:

1. Population tally vs. C tally: Total persons enumerated must check. (File tally A-1)

2. C tally vs. D tally: Totals for each sex, nativity and employment status (up to 150 sub-divisions) must check. Grand totals must check. (File tally A-2)

3. D tally vs. E-1 tally: Totals for each age group must check, in each of three employed classifications, in each sex. (File tally A-3)

4. E-1 tally vs. F-1 tally: Totals of each wage group must check,in each of three employment classifications.

5. E-2 tally vs. C tally: Totals for each of nine classifications of unemployment must check.(File Tally A-1)

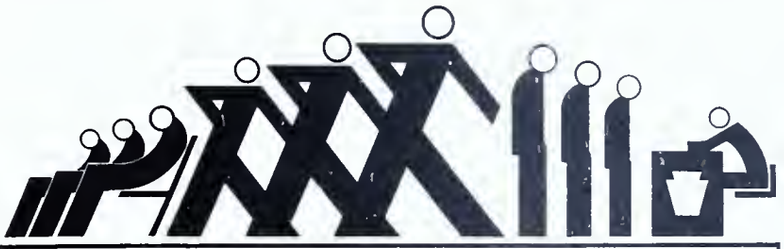
6. F-2 tally vs. C tally: Totals for three classifications of Unemployed - Not Seeking Work must check.(File tally A-1)

7. File tally check: Comparable totals on all file tallies must check.

When tallies for any subdivision fail to check in accordance with the above, such tallies as involve discrepancies are returned to the Sorting and Counting Department to be re-run and corrected, after which they are again inspected by the Tally and Inspection group. When the tallies are corrected, the file tallies are revised to conform and are then filed,while the other tallies are returned to the Sorting and Counting Department until

# CHARACTERISTICS OF PENNSYLVANIA'S EMPLOYABLES

## FLOW CHART SHOWING ANALYSIS OF HOLLERITH CARD SS-1B SOCIAL SURVEYS UNEMPLOYMENT CENSUS — APRIL 1934



PERSONS WHO HAVE JOBS, HAD JOBS, OR ARE SEEKING WORK IN ANY POLITICAL SUBDIVISION

### TALLY C

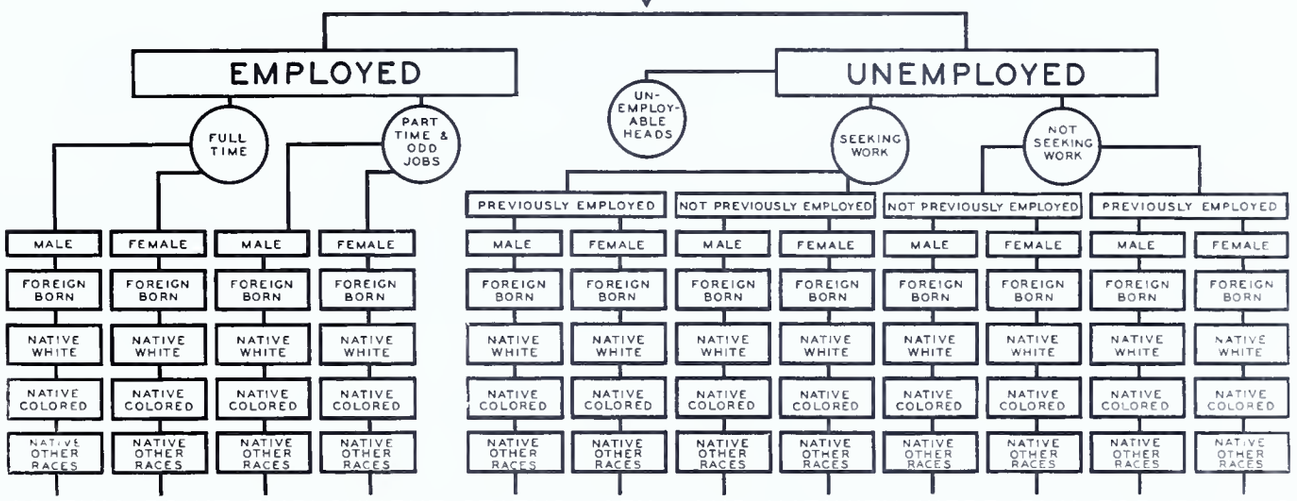
Shift _____ Date _____
Operator _____ Employment Status _____
District _____ Total Cards _____
County No. _____ Inspected By _____
City or Township _____

SORT BY SEX INTO MALES AND FEMALES
SORT EACH SEX FOR NATIVITY

| NATIVITY | MALES | FEMALES | TOTAL |
|---|---|---|---|
| Foreign Born | | | |
| Native White | | | |
| Native Colored | | | |
| Native Other Races | | | |
| TOTALS | | | |

Recapitulated by _____ Date
Checked by _____ Date

If unemployed indicate whether or not previously employed, and whether or not seeking work



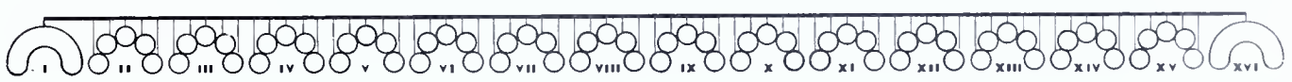

AT THIS POINT EMPLOYMENT STATUS, SEX, AND NATIVITY WERE RUN FOR TALLY D

### TALLY D

DATE _____ EMP STATUS _____
COUNTY _____ SEX _____
CITY OR TWP _____ NATIVITY _____
DISTRICT _____ TOTAL CARDS _____
SEC ____ OPR _____ INSPECTED BY _____ CHECKED BY _____

AGE - SEX - NATIVITY

| AGE GROUP | AGE | NO OF PERSONS | AGE GROUP TOTAL | AGE GROUP | AGE | NO OF PERSONS | AGE GROUP TOTAL |
|---|---|---|---|---|---|---|---|
| 1 | 10 AND UNDER | | | | 43 | | |
| 2 | 11 | | | | 44 | | |
| 3 | 12 | | | 10 | | | |



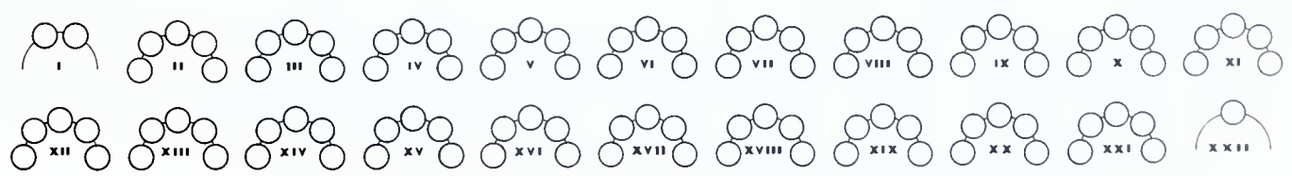

AT THIS POINT THE **SEX - AGE** GROUPS WERE BROKEN DOWN INTO INDIVIDUAL WAGES • THESE WERE LATER GROUPED

### TALLY E I

DATE _____ SHEET NO. _____
COUNTY _____ EMP STATUS _____
CITY OR TWP _____ SEX _____
DISTRICT _____ TOTAL CARDS _____
SEC ____ OPR _____ INSPECTED BY _____ CHECKED BY _____

WAGES BY SEX

| WAGES PER WEEK | AGE GROUP 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | TOTAL |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 0 | 10 | 11 TO 14 | 15 & | 20 | 25 | 30 TO | 35 TO | 40 | | 50 | 55 TO | 60 TO | 65 TO | 70 | 75 | | |




AT THIS POINT THE ABOVE OPERATION (WAGES BREAKDOWN) IS REPEATED FOR THE **NATIVITY** CLASSES

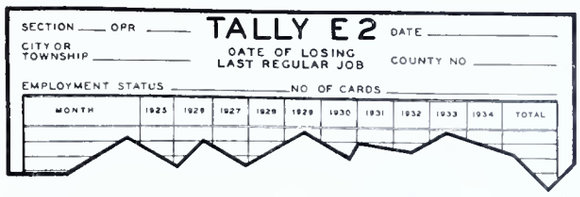
### TALLY F I

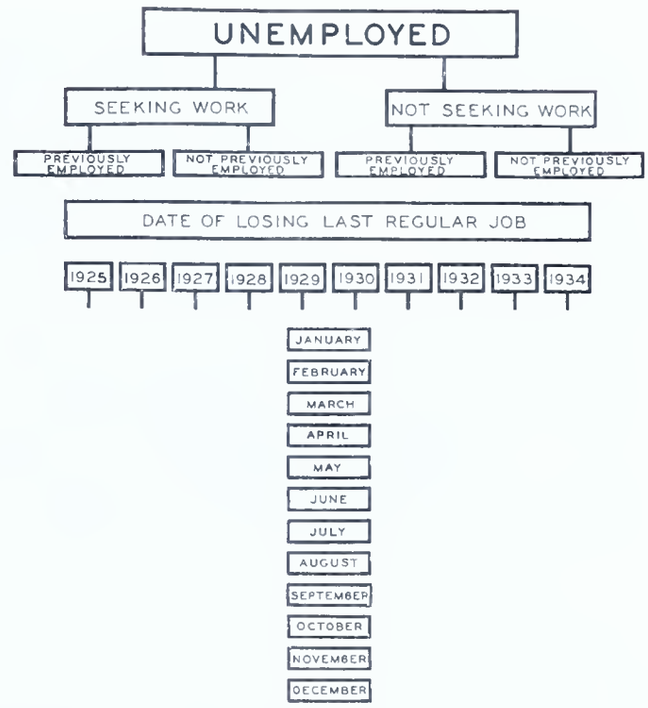
DATE _____ EMP STATUS _____
COUNTY _____ NATIVITY _____
CITY OR TWP _____ TOTAL CARDS _____
DISTRICT _____
SEC ____ OPR _____ INSPECTED BY _____ CHECKED BY _____

WAGES BY NATIVITY

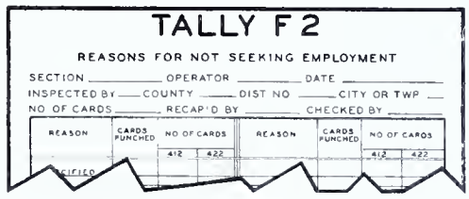
| WAGES | NO CARDS | GROUP TOTAL | WAGES | NO CARDS | GROUP TOTAL | WAGES | NO CARDS | GROUP TOTAL |
|---|---|---|---|---|---|---|---|---|

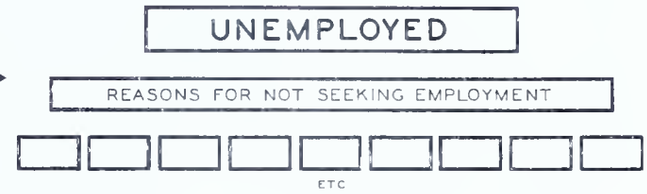
THE CARDS FOR UNEMPLOYED PERSONS WERE SORTED TO SHOW THE DATE OF LOSING THEIR LAST REGULAR JOB



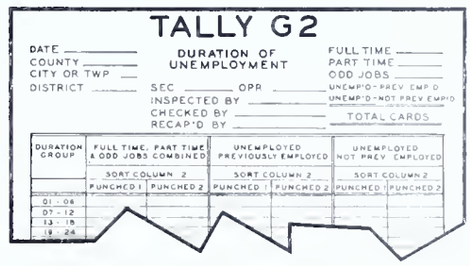



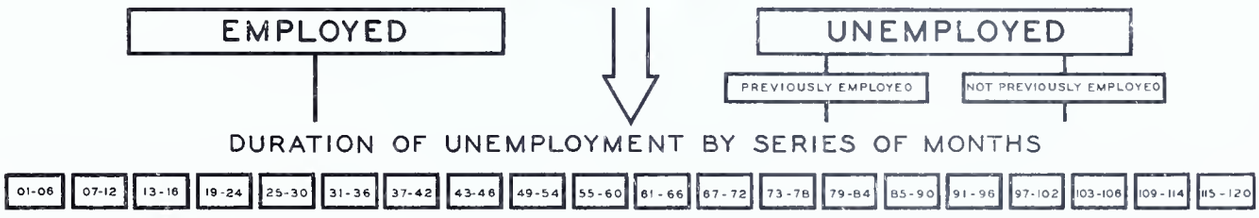

THE CARDS FOR UNEMPLOYED PERSONS WHO WERE NOT SEEKING WORK WERE SORTED TO SHOW THE REASONS REPORTED

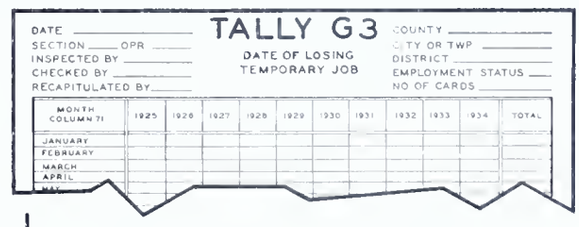


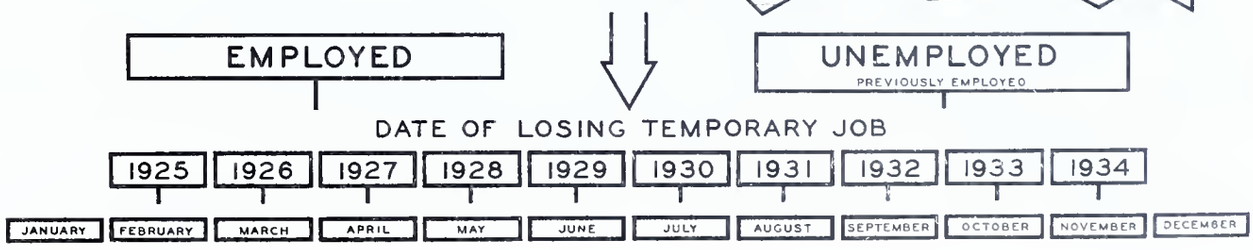




ALL CARDS WERE SORTED TO SHOW THE DURATION OF UNEMPLOYMENT OF PERSONS WHO ARE OR RECENTLY HAVE BEEN UNEMPLOYED

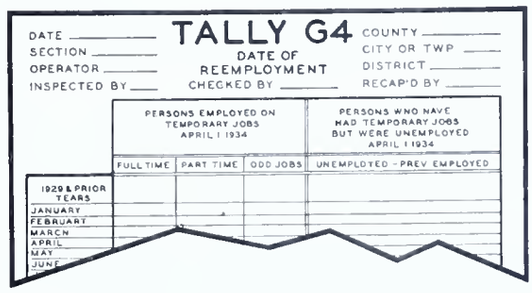


ALL CARDS WERE SORTED TO SHOW THE DATE OF REEMPLOYMENT OF PERSONS WHO HAVE OR HAD A TEMPORARY JOB




PERSONS WHO HAD A TEMPORARY JOB

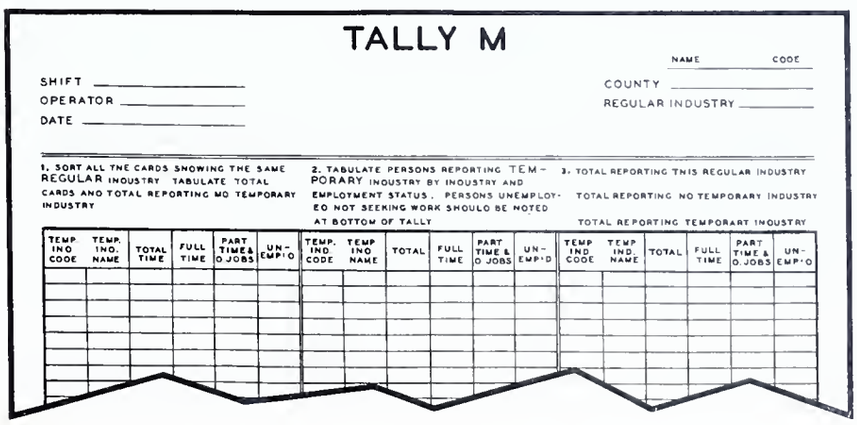
- FULL TIME
- PART TIME AND ODD JOBS

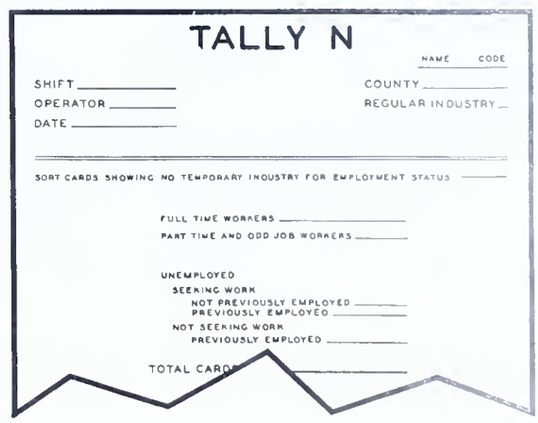
UNEMPLOYED PERSONS WHO HAD A TEMPORARY JOB

| 1930 | 1931 | 1932 | 1933 | 1934 |
|---|---|---|---|---|
| JANUARY | JANUARY | JANUARY | JANUARY | JANUARY |
| FEBRUARY | FEBRUARY | FEBRUARY | FEBRUARY | FEBRUARY |
| MARCH | MARCH | MARCH | MARCH | MARCH |
| APRIL | APRIL | APRIL | APRIL | APRIL |
| MAY | MAY | MAY | MAY | |
| JUNE | JUNE | JUNE | JUNE | |
| JULY | JULY | JULY | JULY | |
| AUGUST | AUGUST | AUGUST | AUGUST | |
| SEPTEMBER | SEPTEMBER | SEPTEMBER | SEPTEMBER | |
| OCTOBER | OCTOBER | OCTOBER | OCTOBER | |
| NOVEMBER | NOVEMBER | NOVEMBER | NOVEMBER | |
| DECEMBER | DECEMBER | DECEMBER | DECEMBER | |

PERSONS WHO HAVE JOBS, HAD JOBS, OR ARE SEEKING WORK IN ANY REGULAR INDUSTRY

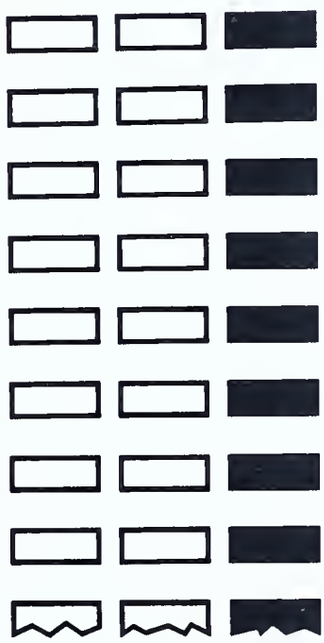
AT THIS POINT ALL THE CARDS WERE SORTED INTO REGULAR INDUSTRY SEQUENCE



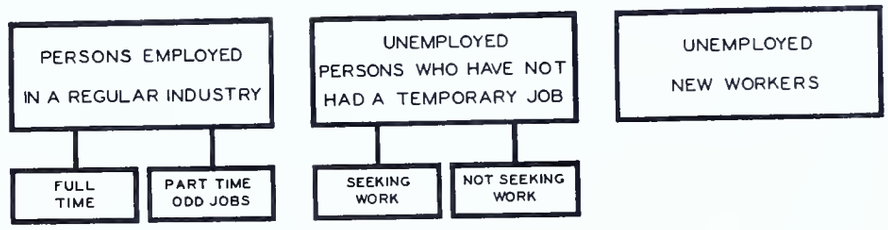



TALLY M IS CONCERNED WITH ALL PERSONS REPORTING A REGULAR INDUSTRY WHO HAVE OR HAD A TEMPORARY JOB IN ANOTHER INDUSTRY

TALLY N IS CONCERNED WITH ALL PERSONS REPORTING A REGULAR INDUSTRY WHO DID NOT REPORT A TEMPORARY INDUSTRY

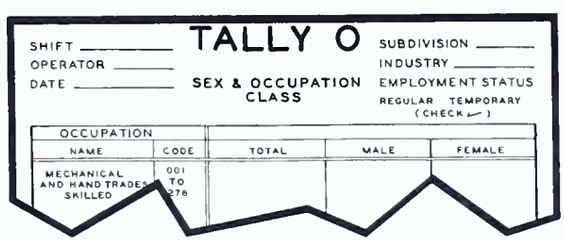


EACH LINE IN THE ABOVE SAMPLE DIAGRAM REPRESENTS A TEMPORARY INDUSTRY. EACH BLOCK REPRESENTS AN EMPLOYMENT STATUS.
EMPLOYED WORKERS.
UNEMPLOYED WORKERS.




ALL CARDS OF THE SAME REGULAR INDUSTRY WERE GROUPED AND ALL CARDS OF THE SAME TEMPORARY INDUSTRY WERE GROUPED

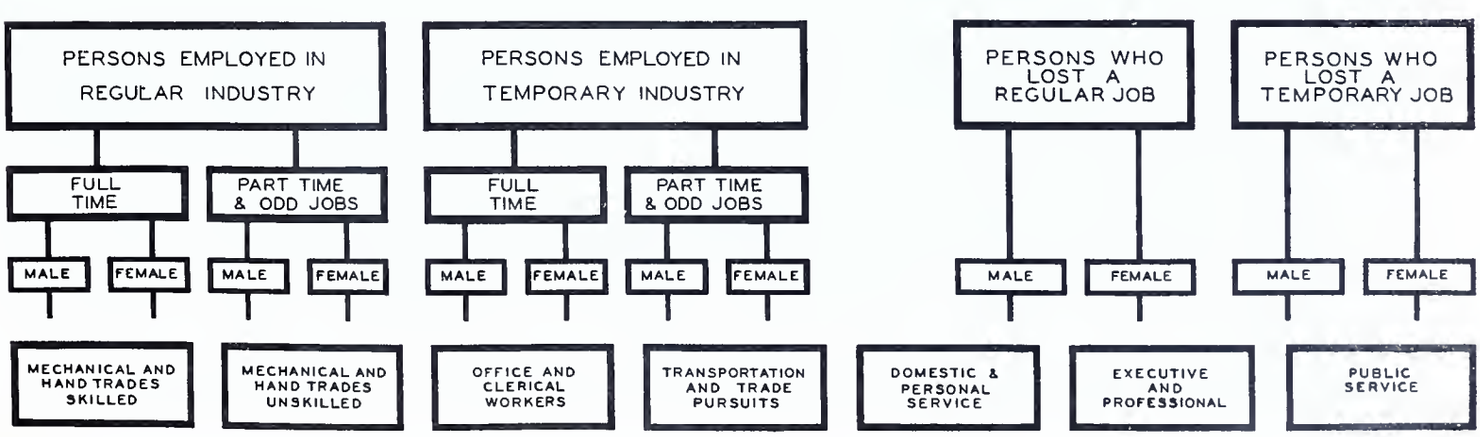
EACH OF THE ABOVE INDUSTRY CLASSES WERE BROKEN DOWN FOR OCCUPATION CLASS AND SEX



TALLY O

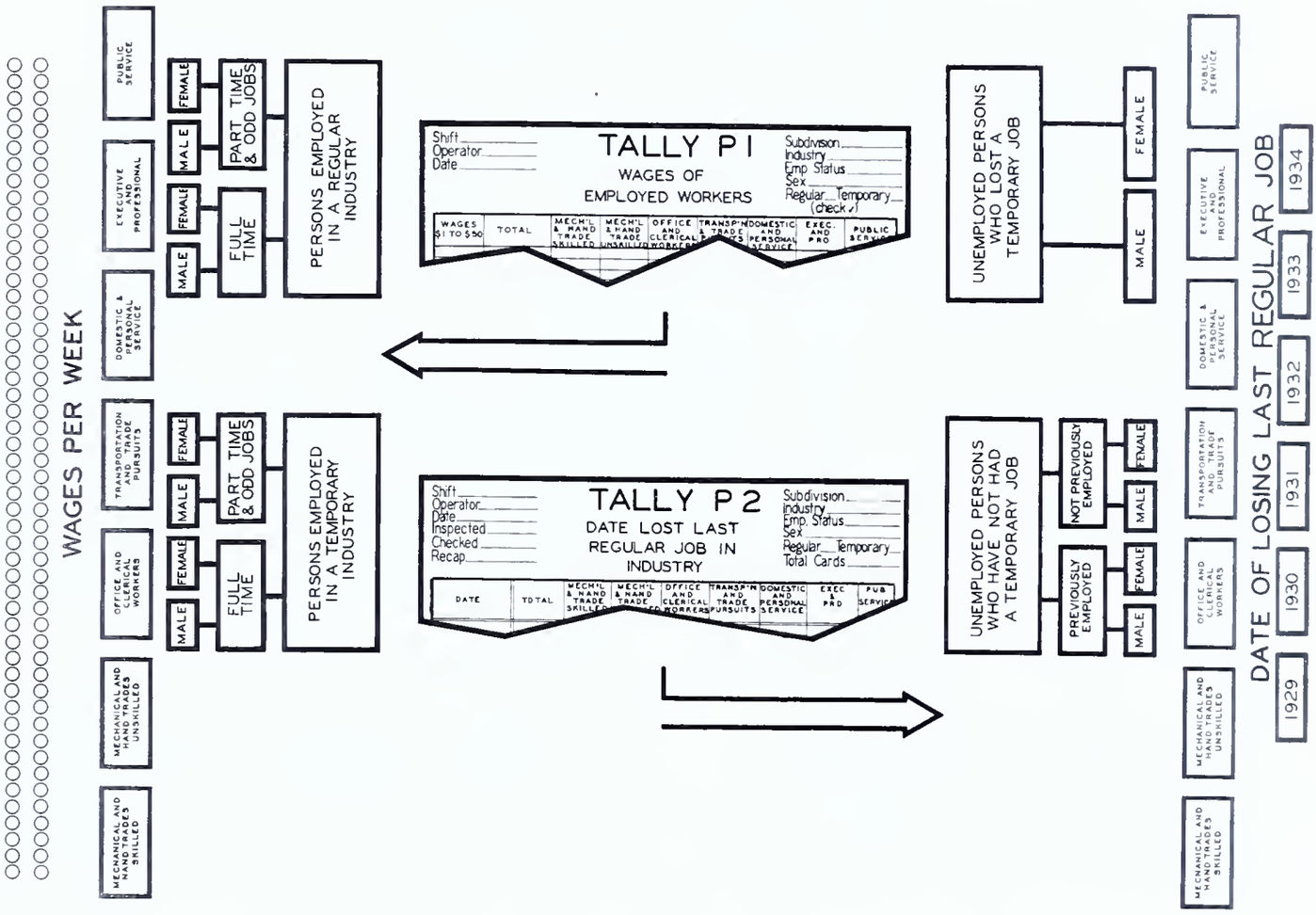
SHIFT _____ SUBDIVISION _____
OPERATOR _____ INDUSTRY _____
DATE _____ SEX & OCCUPATION CLASS EMPLOYMENT STATUS REGULAR TEMPORARY (CHECK ✓)

| OCCUPATION | | | | |
|---|---|---|---|---|
| NAME | CODE | TOTAL | MALE | FEMALE |
| MECHANICAL AND HAND TRADES SKILLED | 001 TO 278 | | | |

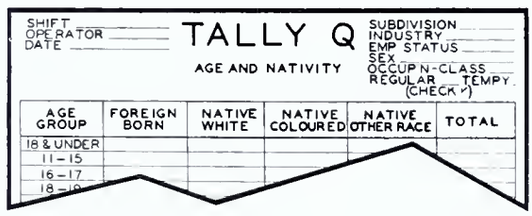


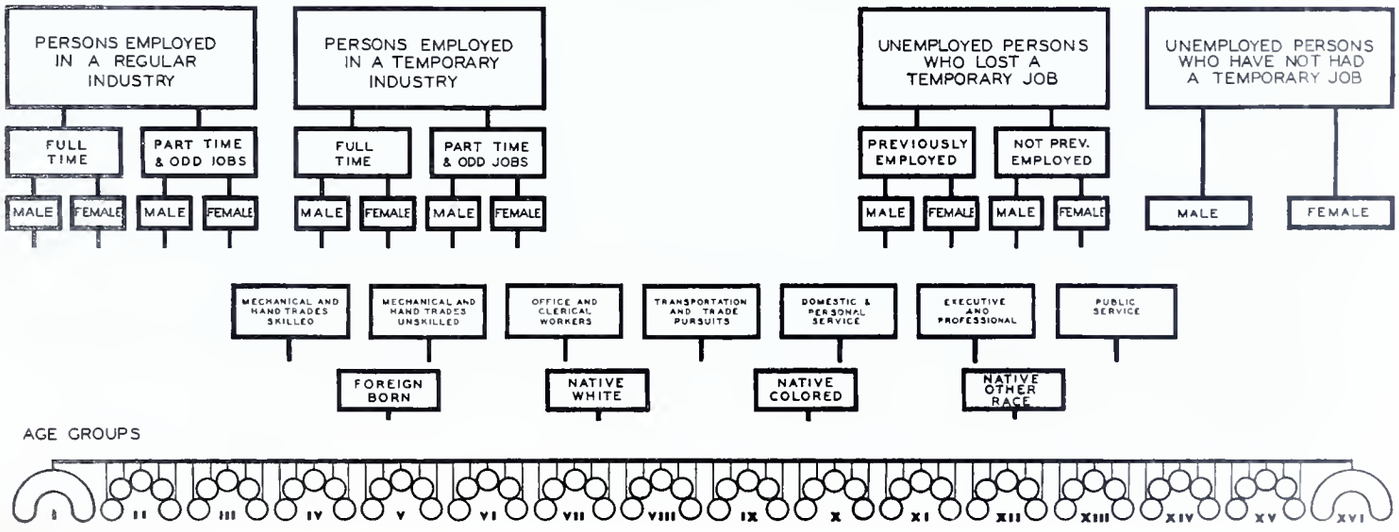
THE EMPLOYED PERSONS IN EACH OCCUPATION CLASS OF EVERY INDUSTRY WERE SORTED FOR WEEKLY WAGES

THE UNEMPLOYED PERSONS IN EACH OCCUPATION CLASS WERE SORTED FOR DATE OF LOSING LAST REGULAR JOB




ALL PERSONS OF THE SAME INDUSTRY, OCCUPATION CLASS, AND EMPLOYMENT STATUS WERE SORTED FOR NATIVITY –



# PERSONS WHO HAVE JOBS, HAD JOBS, OR ARE SEEKING WORK IN ANY REGULAR OCCUPATION

AT THIS POINT ALL THE CARDS WERE SORTED INTO REGULAR OCCUPATION SEQUENCE

## TALLY R

NAME CODE

SHIFT _____

OPERATOR _____

DATE _____

COUNTY _____

REGULAR OCCUPATION * _____

*IDENTIFY INDUSTRY FOR SELECTED OCCUPATION

1 SORT AND TABULATE ALL CARDS SHOWING REGULAR OR TEMPORARY OCCUPATION AND NO TEMPORARY OCCUPATION

PLACE TOTAL OF UNEMPLOYED NOT SEEKING WORK IN SPACE INDICATED AT RIGHT BOTTOM OF THIS TALLY

2 TOTAL REPORTING REGULAR OCCUPATION ____

TOTAL REPORTING TEMPORARY OCCUPATION ____

TOTAL REPORTING NO TEMPORARY OCCUPATION (SUBTRACT TEMPORARY) _____

| TEMP OCC CODE | TEMP. OCC NAME | TOTAL TIME | FULL TIME | PART TIME & O JOBS | UN-EMP'D | TEMP OCC CODE | TEMP. OCC. NAME | TOTAL | FULL TIME | PART TIME & O. JOBS | UN-EMP'D | TEMP OCC CODE | TEMP OCC. NAME | TOTAL | FULL TIME | PART TIME & O JOBS | UN-EMP'D |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | |
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| | | | | | | | | | | | | | | | | | |

## TALLY S

NAME CODE

SHIFT _____

OPERATOR _____

DATE _____

COUNTY _____

REGULAR OCCUPATION * _____

*IDENTIFY INDUSTRY FOR SELECTED OCCUPATION

SORT CARDS SHOWING NO TEMPORARY OCCUPATION FOR EMPLOYMENT STATUS _____

FULL TIME WORKERS _____

PART TIME AND ODD JOB WORKERS _____

UNEMPLOYED

SEEKING WORK

NOT PREVIOUSLY EMPLOYED _____

PREVIOUSLY EMPLOYED _____

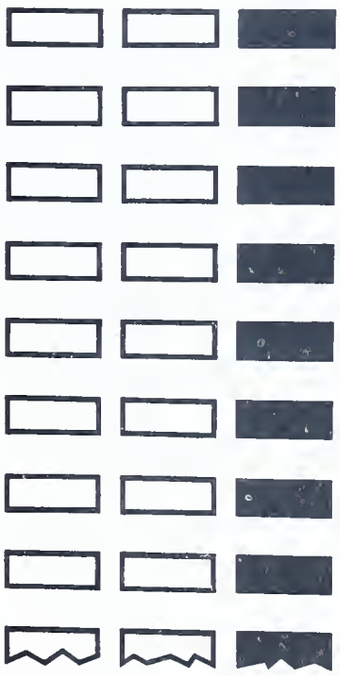
NOT SEEKING WORK

PREVIOUSLY EMPLOYED _____

TOTAL CARDS _____

TALLY R IS CONCERNED WITH ALL PERSONS REPORTING A REGULAR OCCUPATION WHO HAVE OR HAD A TEMPORARY JOB

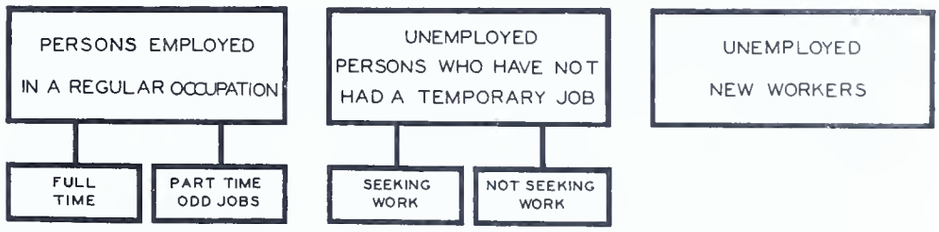
TALLY S IS CONCERNED WITH ALL PERSONS REPORTING A REGULAR OCCUPATION WHO DID NOT REPORT A TEMPORARY OCCUPATION



EACH LINE IN THE ABOVE SAMPLE DIAGRAM REPRESENTS A TEMPORARY OCCUPATION. EACH BLOCK REPRESENTS AN EMPLOYMENT STATUS.

▭ EMPLOYED WORKERS.

■ UNEMPLOYED WORKERS.



such time as tallies for all subdivisions of a county are completed and checked.

When all tallies for a given county are complete, they are received by the Tally and Inspection Department for recapitulation by county, or by such other unit as may be required by the tabulating department. The recapitulation groups segregate all tallies by employment status, sex, and nativity, condense the data on each group of tallies, and record the resultant totals for the county (or other unit) on a recapitulation form similar to the tallies. All comparable items and totals are then recorded on recapitulation file tallies (Forms A-1, A-2, A-3, and A-6) and checked for agreement. If all comparable totals agree, all original and recapitulation tally sheets are made available to the Tabulating Department, while the file tallies are filed for reference.

When recapitulation sheets indicate a discrepancy (as shown by "recap" file tallies), the group of tallies is returned to the group checker for re-check of the recapitulation. An additional check on any total or subtotal is available through combining the subdivision file tally figures for the item in question.

Accuracy of original and of recapitulation tally sheets is enforced by the use of file tally sheets as outlined above, and by the interdependent nature of classification totals as presented on the various types of tallies. The accuracy of the figures presented on the tally is further assured by adding all figures both horizontally and vertically on each sheet, and striking frequent sub-totals. This latter, in conjunction with the original and recapitulation file tallies, greatly facilitates the isolation and correction of errors. Recapitulation of tallies with comparable totals and sub-totals are accomplished by different operators and with an intervening time period, so that all such sub-totals and totals must be obtained inde-

pendently. Recapitulation tallies are checked against the component tallies by the group leader, while the recapitulation file tallies are posted and inspected by the section supervisor in charge.

These safeguards have enabled the department to compile county recapitulation tallies which present correct totals for all classifications involved.

Detailed Description of the Sorting Runs

(The flow of work can be best understood by reference to the sociographic flow chart which is presented in connection with this report.)

When the population tally for the subdivision in question was approved by the Archives Department, the cards were sorted for Employment Status. Six classes were possible:

| Pocket of Machine | Class |
|---|---|
| 11 (Punched "8") | Unemployed Heads of Households |
| 0 | Unspecified |
| 1 | Full Time |
| 2 | Part Time |
| 3 | Odd Jobs |
| 4 | Unemployed |

The last group, Unemployed, was then sorted, first on the "Previously Employed" column and then on the "Seeking Work" column. This could result in nine possible groups:

| POCKET OF MACHINE Previously Employed | Seeking Work | CLASS |
|---|---|---|
| 0 | 0 | Unspecified as to either previous employment or as to desire for work |
| 0 | 1 | Unspecified as to previous employment but seeking work |
| 0 | 2 | Unspecified as to previous employment but not seeking work |

| | | |
|---|---|---|
| 1 | 0 | Previously Employed but Unspecified as to desire for work. |
| 1 | 1 | Previously Employed and Seeking Work |
| 1 | 2 | Previously Employed but not Seeking Work |
| 2 | 0 | Not Previously Employed Unspecified as to desire for work |
| 2 | 1 | Not previously employed but Seeking Work |
| 2 | 2 | Neither Previously Employed Nor Seeking Work |

At the end of this analysis there were fourteen possible classes of cards. Each of these were sorted on Sex and the sub-classes were sorted for Nativity. At this point, the information was tallied (Tally C). As pointed out earlier, there is a possibility of 280 groups of cards. Each of them was sorted for Age and tallied (Tally D).

Beyond this point the classes were small, so before the next run, the cards for the employed classes were grouped, without regard to nativity distinction, into sixteen age groups:

| | | | |
|---|---|---|---|
| Group | 0 - Unspecified | Group | VIII - 35 to 39 |
| Group | I - 10 and under | Group | IX - 40 to 44 |
| Group | II - 11 to 15 | Group | X - 45 to 49 |
| Group | III - 16 and 17 | Group | XI - 50 to 54 |
| Group | IV - 18 and 19 | Group | XII - 55 to 59 |
| Group | V - 20 to 24 | Group | XIII - 60 to 64 |
| Group | VI - 25 to 29 | Group | XIV - 65 to 69 |
| Group | VII - 30 to 34 | Group | XV - 70 to 74 |
| | | Group | XVI - 75 and over |

Each of these employed Sex-Nativity-Age groups were sorted for Wages per Week and tallied (Tally E-1), while the cards for the unemployed groups were combined without regard to Sex, Nativity, or Age distinction and sorted for the month and year of losing the last regular job (Tally E-2).

Another wage run was now made for the employed. The employed classes were sorted for Nativity disregarding Sex and then run for Wages and tallied (Tally F-1). The cards for the Unemployed, on the other hand, were temporarily discarded except for those not seeking work. These were sorted

for "Reasons" which have ranged from Independent Income to Anemia. (Tally F-2)

Production Methods

Two methods of handling the above tallies have been tried. One was to issue a group of cards to an operator and let him sort for the entire set of tallies. Another was to assign certain tallies to certain groups of machines and let each of these units operate continuously with a certain field of cards just as the coding groups had specialized in certain parts of the schedule.

The last method has been the most satisfactory since it has been possible by means of control totals for various subdivisions to keep a perpetual check on the work. At each stage of the operations, the file clerks and inspectors have made comparisons between tallies to be sure that no cards had been lost or no duplicate tallies had been made.

In addition to this internal control, there were the two external controls discussed earlier, those by the Tally and Inspection Department and the Archives Department. The last mentioned department, having charge of the schedule files, checked the household tallies by means of a hand count of schedules when any question arose as to whether or not cards were missing.

Duration and Date Runs

It was pointed out in connection with the enumeration of SS-1B that information had been gathered on date of reemployment and the date of losing temporary job, where these things hold true. Coding-Group VI computed durations of unemployment for these persons and the key-punch operators transferred both the duration and the dates to the cards. The sorting machine operators were assigned tallies for this information when the "F" tallies were near completion.

First, the Duration of Unemployment was studied (G-2). Three classes of cards resulted when the first column of the field was sorted, those showing:

x - No duration
1 - One period of unemployment
2 - Two periods of unemployment.

As might have been expected, the majority of cards were "X'd." The other two classes were sorted and tallied for the total number of months of unemployment, the distinction between those employed at the time of the Survey and those unemployed being maintained. The next runs, sorting tallies "G-3" and "G-4," Date of Losing Temporary Job, and Date of Reemployment, respectively, were similar in principle to Tally E-2 except that they have been a little more difficult to interpret.

Sorting for Industry and Occupation

Information regarding Occupation and Industry was peculiarly difficult to sort. When the schedule was designed, provision had been made for stating the Regular Industry and Occupation, the Temporary Industry and Occupation, and the present Employment Status. This meant that of the cards punched "1," Employed Full Time, some were employed full time at their regular jobs while others were unemployed with respect to their regular jobs but employed full time in a Temporary Occupation and/or Industry. To get the industrial or occupational distribution of the State's workers at the time of the Survey, it was necessary to separate the cards showing a Temporary Industry (or Occupation) from those showing nothing but the Regular Industry (or Occupation). This was done for the Philadelphia Industry cards in a manner that enabled us to study at the same time the extent of industrial shift. All cards were sorted into Regular Industry order and the total number reporting each was noted. Every Regular Industry group was then sorted on the Temporary Industry column. Some of the cards were

"rejected" by the machine. These represented the persons who had not had any temporary employment. The remaining cards were distributed into a variety of groups. Both the rejected cards and the temporary industry groups were sorted for Employment Status and tabulated (Tallied M and N). The M tallied (Regular Industry by Temporary Industry) were then recapitulated and the total number of persons temporarily engaged in an industry were shown along with the regular workers.

As these tallies were completed, two industry files developed; namely, the Temporary and the Regular. Each of the Industry-Employment Status groups were then sorted for general occupational characteristics and Sex (Tally O). The Employed were sorted for Wages and Occupation class (Tally P1) and the Unemployed for Date of Losing Last regular job and Occupation class (Tally P2). Finally, these occupation sub-classes were sorted for Nativity (Tally Q).

When these tallies have been completely analyzed, they will unquestionably prove to be valuable, but the complexity of the cross-relationships makes control and recapitulation difficult and the detail makes the number of tallies extremely great. Since this is true, another type of analysis was developed for the study of occupation for the State.

Employment Status and Temporary Occupations for Each Regular Occupation and Employment Status of Those Who Have Had Only Their Regular Occupations

Tallies R and S, involved all the problems discussed in connection with tallies M and N except that the problem was multiplied by 67, the number of Pennsylvania counties. Each county was sorted into regular occupation sequence and studied for occupation shift just as we had studied industrial shift. When this was completed, they were placed in a State occupation file where they were available for further analysis.

Tabulation

The final results of the Survey are expressed in tables. These have

been of two kinds: Master tables which give the various relationships in considerable detail; and Summary tables which present the more interesting and significant data in briefer form. Arriving at forms that were satisfactory took considerable time, since there were a large number of unknown groups that increased the size and complexity of the tables.

These unknown groups have been treated at length in the section on Coding and Sorting. It remains to be shown what was done with them. It was, of course, impossible to predict what their size would be until the tallies were made, but once it became possible to state the total number of persons in each of these classes, we could distribute them among related known classes without appreciable error and with the assurance that the true totals could be separated at any time.

The first problem was unspecified sex. Because the number was small, we arbitrarily added them to the Males. It would, of course, have been possible to distribute them proportionately but it was felt that the other method of treatment would facilitate subtraction if it were desirable to report the true totals. Since those of unspecified nativity formed a larger proportion of the total number of cases, they were carried as a separate class. However, we had found that since the number of natives of other race was small, and since the enumerators had probably included many Chinese, Filipinos, etc.,with the Native Colored, we were justified in adding these persons to the Native Colored. (See portion of schedule)

Because the groupings of those with only a partially defined employment status depended in a large measure on the definition of employability, several paragraphs of the discussion of definitions are quoted here from the Philadelphia report.

> "Employables are persons who are either working for money, or its equivalent, or attempting to get work which will yield them money, or its equivalent. This

class, however, does not include those persons who are working because of personal or social obligations for some non-pecuniary reward, but does include persons who are temporarily not at work because of labor disputes.

"Unemployed persons are Employables who are not working for money, or its equivalent, but are attempting to get such work. In addition, this class includes persons who are temporarily not at work because of labor disputes.

"Full Time workers are Employables who are working thirty hours per week or more.

"One objection might be raised to the definition of 'Employable' used. Under this definition, persons to be classed as Employable must be working or 'attempting to get work' unless they are 'temporarily not at work because of labor disputes.' This definition excludes persons who are not seeking work because of temporary illness. It should be noted, however, that persons who are carried on the payroll of some industry and are merely away from work for a few days are counted as employable and employed, and that the only persons idle because of illness excluded from the employables and unemployed were those who felt that their disability was of a sufficiently severe nature to necessitate their being inactive for some time.

.....

"The United States Bureau of Census defines gainful workers as '.....persons 10 years old and over who usually follow a gainful occupation.....' This definition is not entirely satisfactory if we are engaged in studying the occupational distribution of persons at any one date, since it arbitrarily excludes many potential workers because they lack an occupational label. For the same reason, when we try to compare the totals of one year with those of another year, we are trying to compare figures that are not truly comparable. We have the difficulty of measuring with a yard stick the length of which varies with time. During a period of expansion, when there is a demand for labor of all types many persons, particularly young workers, will have the opportunity of following some gainful occupation, but in periods of depression, when employment opportunities are limited, we should find that this same group will have been diminished because they have not been able to establish themselves in any occupation. These potential workers are seeking work and should be included as a part of the labor market."

The checked and recapitulated tallies for Philadelphia were received prior to the organization of a regular tabulating department. The Research

and Planning group posted the information from the tallies, giving all the detail, and then in the light of the above definitions made combinations of classes wherever it was reasonable to do so. The following totals were reported:

| | PHILADELPHIA | |
|---|---|---|
| | Number | Per Cent of Total |
| 1. Full Time | 466,681 | 48.3 |
| 2. Part Time | 119,851 | 12.4 |
| 3. Odd Jobs | 4,188 | 0.4 |
| 4. Unemployed, Previously Employed, Seeking Work | 248,811 | 25.8 |
| 5. Unemployed, Previously Employed, Not Seeking Work | 40,945 | 4.2 |
| 6. Unemployed, Previously Employed Unspecified | 339 | --- |
| 7. Unemployed, Not Previously Employed, Seeking Work | 36,224 | 3.7 |
| 8. Unemployed, Not Previously Employed, Not Seeking Work | 10,224 | 1.1 |
| 9. Unemployed, Not Previously Employed, Unspecified | 19 | --- |
| 10. Unemployed, Unspecified Seeking Work | 18 | --- |
| 11. Unemployed, Unspecified Not Seeking Work | 2,066 | 0.2 |
| 12. Unemployed, Unspecified, Unspecified | 124 | --- |
| 13. Unspecified | 2,150 | 0.2 |
| 14. Unemployable Heads | 34,602 | 3.6 |
| | 966,242 | 99.9 |

Class 13, Unspecified, and Class 14, Unemployable Heads of Households, were immediately excluded, the latter by definition and the former because it was impossible to determine from the available data anything at all regarding their employability. Class 3, Odd Jobs, and Class 2, Part Time, having proved to be difficult to distinguish, were added together and reported as Part Time. The unemployed who had stated neither that they were new workers nor previously employed workers (Classes 10, 11, 12) were grouped with the "Previously Employed" (Classes 4, 5, 6); the "Unspecified, seeking Work" (Class 10) were grouped with the "Previously Employed Seeking

Work" (Class 4); the "Unspecified, Not Seeking Work" (Class 11) were grouped with the "Previously Employed, Not Seeking Work" (Class 5); and the "Unspecified, Unspecified," (Class 12) were grouped with the "Previously Employed Unspecified" (Class 6). This left two major subclasses of the Unemployed; namely; "Previously Employed" and "Not Previously Employed," each with three breakdowns - Seeking Work, Not Seeking Work, and Unspecified. The "Previously Employed, Unspecified" (Class 6) we assumed to be seeking work (Class 4) while the "Not Previously Employed, Unspecified" (Class 9) we added to the Not Previously Employed "Not Seeking Work" (Class 8)

These adjusted employment status totals were separated into the employable classes and non-employable classes as follows:

| Employable | Non-Employable |
|---|---|
| Full Time Workers | |
| Part Time Workers | |
| Unemployed Seeking Work | Unemployed Not Seeking Work |
| Previously Employed | Previously Employed |
| Not Previously Employed | Not Previously Employed |

As the various sets of tallies were completed, the totals were posted to large master tables. Generally, one tally made a line of information on the table.

Tally C appears as follows:

Subdivision School Dist. B
Employment Status Full Time

| | Male | Female | Unspec. | Total |
|---|---|---|---|---|
| Foreign Born | | | | |
| Native White | | | | |
| Native Colored | | | | |
| Native Other | | | | |
| TOTAL | | | | |

The items on the table appeared as follows:

Full Time Workers by Sex and Nativity

| | All Nativities | | | Foreign Born | | | Native White | | | Nat. Colored | | | Unspec. | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | T | M | F | T | M | F | T | M | F | T | M | F | T | M | F |
| School Dist 1 | | | | | | | | | | | | | | | |
| School Dist 2 | | | | | | | | | | | | | | | |
| School Dist 3 | | | | | | | | | | | | | | | |

The most difficult tables were those dealing with ages and with wages. The large number of items involved considerable labor in posting and checking. A mistake in one item would frequently necessitate many hours of work. To simplify these operations the tallies were changed so that the tally inspectors could enter sub-totals for age groups and wage groups. These groups were then posted and the grouped data used except for medians which were always determined from the ungrouped data reported on the tallies.

The organization of the Tabulating Department is given treatment elsewhere but their methods of working are discussed briefly here. The tallies that they received had to check to the person and form a perfectly consistent set. The tabulators then transferred this data to improve master tables (see opposite page) and computed any averages that were necessary. This formed the final official record for the subdivision in question and was turned over to the archives Department for filing.

Much of the work of this department involved the immediate derivation of summary tables, either from the master tables, or, when these had not been prepared, directly from the recapitulated tallies. These summaries were then available for publication in the County Bulletins. Generally, each table of numbers had its companion table of percentages accordingly, each pair of tabulators was equipped with a calculating machine.

Just as the sets of tallies must show consistency, so the finished tables must be consistent - e. g., if one table is posted from the Tally E (Wages by Sex and Age) and another from Tally F (Wages by Nativity), each of the subclasses will be different but the totals for each wage group must agree when the tables are complete. Similarly, the total for each age group of the wages by sex and Age must agree with the preceding Age Table and the total of each Sex must be the same in every table for that Employment Status.

# TABLES USED BY THE TABULATING DEPARTMENT

FORM SERB · WD · SS · 1

COMMONWEALTH OF PENNSYLVANIA
STATE EMERGENCY RELIEF BOARD
SOCIAL SURVEYS

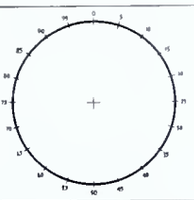
**TABLE I**
**COUNTY NO. _____**

## EMPLOYMENT STATUS
## BY NATIVITY AND SEX
## FOR _____

| POSTED | BALANCED | INSPECTED |
|---|---|---|
| | | |

THIS SHEET IS NO. ____ OF ____ SHEETS.

THIS EMPLOYMENT STATUS IS _____ % OF _____ EMPLOYABLES



PERCENTAGE OF ALL NATIVITIES
NATIVE WHITE _____
NATIVE COLORED _____
NATIVE OTHER RACE _____
FOREIGN BORN _____
UNSPECIFIED _____

PERCENTAGE OF BOTH SEXES
MALE _____
FEMALE _____

REMARKS: ARCHIVES DIVISION-

| | ALL NATIVITIES | | | NATIVE WHITE | | | NATIVE COLORED | | | NATIVE OTHER RACE | | | FOREIGN BORN | | | UNSPECIFIED (NATIVITY) | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | TOTAL | MALE | FEMALE | TOTAL | MALE | FEMALE | TOTAL | MALE | FEMALE | TOTAL | MALE | FEMALE | TOTAL | MALE | FEMALE | TOTAL | MALE | FEMALE |
| | | | | | | | | | | | | | | | | | | |

FORM SERB-WD-SS-2
COMMONWEALTH OF PENNSYLVANIA
STATE EMERGENCY RELIEF BOARD
SOCIAL SURVEYS

**TABLE-II**
**COUNTY _____**
**BORO, CITY OR TOWNSHIP _____**

## AGES OF _____
## BY SEX AND NATIVITY

| POSTED | BALANCED | INSPECTED |
|---|---|---|
| | | |

THIS IS SHEET NO. ____ OF ____ SHEETS

LEGEND
RED NATIVE WHITE
BLACK NATIVE COLORED
ORANGE NATIVE OTHER RACE
BLUE FOREIGN BORN
GREEN UNSPECIFIED

MALE

FEMALE

LEGEND
RED NATIVE WHITE
BLACK NATIVE COLORED
ORANGE NATIVE OTHER RACE
BLUE FOREIGN BORN
GREEN UNSPECIFIED

REMARKS: ARCHIVES DIVISION

SIGNED

| | ALL NATIVITIES | | | NATIVE WHITE | | | NATIVE COLORED | | | NATIVE OTHER RACE | | | FOREIGN BORN | | | UNSPECIFIED | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | TOTAL | MALE | FEMALE | TOTAL | MALE | FEMALE | TOTAL | MALE | FEMALE | TOTAL | MALE | FEMALE | TOTAL | MALE | FEMALE | TOTAL | MALE | FEMALE |
| | | | | | | | | | | | | | | | | | | |

FORM-WD-SS3
COMMONWEALTH OF PENNSYLVANIA
STATE EMERGENCY RELIEF BOARD
SOCIAL SURVEYS

**TABLE-III**
**COUNTY _____**
**CITY, BORO OR TOWNSHIP _____**

## WAGES PER WEEK
## BY SEX AND AGE
## OF _____ WORKERS

| POSTED | BALANCED | INSPECTED |
|---|---|---|
| | | |

THIS IS SHEET NO. ____ OF ____ SHEETS

MALE

LEGEND
MALE - RED

DOLLARS PER WEEK

MEDIAN WAGE BY AGE GROUP

FEMALE

LEGEND
FEMALE - GREEN

DOLLARS PER WEEK

MEDIAN WAGE BY AGE GROUP

REMARKS: ARCHIVES DIVISION

| GRAND TOTAL | MALE AGE GROUPS | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| WAGE GROUPS DOLLARS PER WEEK | TOTALS | UNSPEC | 10 AND UNDER | 11 TO 15 | 16 AND 17 | 18 AND 19 | 20 TO 24 | 25 TO 29 | 30 TO 34 | 35 TO 39 | 40 TO 44 | 45 TO 49 | 50 TO 54 | 55 TO 59 | 60 TO 64 | 65 TO 69 | 70 TO 74 | 75 AND OVER |
| | | | | | | | | | | | | | | | | | | |

FORM SERB-WD-SS 4
COMMONWEALTH OF PENNSYLVANIA
STATE EMERGENCY RELIEF BOARD
SOCIAL SURVEYS

**TABLE-IV**
**COUNTY _____**
**CITY, BORO OR TOWNSHIP _____**

## WAGES PER WEEK
## BY NATIVITY

| POSTED | BALANCED | INSPECTED |
|---|---|---|
| | | |

THIS IS SHEET NO. ____ OF ____ SHEETS.

| WAGE GROUPS DOLLARS PER WEEK | ALL NATIVITIES | NATIVE WHITE | NATIVE COLORED | NATIVE OTHER RACE | FOREIGN BORN | UNSPECIFIED |
|---|---|---|---|---|---|---|
| UNSPECIFIED | | | | | | |
| 1 - 2 | | | | | | |
| 3 - 7 | | | | | | |
| 8 - 12 | | | | | | |

MEDIAN WAGE BY NATIVITY

36
34
32
30

**TABLE-V**

## DURATION OF UNEMPLOYMENT IN SIX MONTH INTERVALS

| DURATION IN SIX MONTH INTERVALS | WORKERS NOW EMPLOYED | WORKERS NOW UNEMPLOYED PREVIOUSLY EMPLOYED | WORKERS NOW UNEMPLOYED NOT PREVIOUSLY EMPLOYED | DURATION IN SIX MONTH INTERVALS | WORKERS NOW EMPLOYED | WORKERS NOW UNEMPLOYED PREVIOUSLY EMPLOYED | WORKERS NOW UNEMPLOYED NOT PREVIOUSLY EMPLOYED |
|---|---|---|---|---|---|---|---|
| 6 | | | | 61-66 | | | |
| 7-12 | | | | 67-72 | | | |

**TABLE-VI**

## REASONS REPORTED BY UNEMPLOYED WHO ARE NOT SEEKING WORK

| REASON GIVEN | PERSONS PREVIOUSLY EMPLOYED | PERSONS NOT PREVIOUSLY EMPLOYED | REASON GIVEN | PERSONS PREVIOUSLY EMPLOYED | PERSONS NOT PREVIOUSLY EMPLOYED | REASON GIVEN | PERSONS PREVIOUSLY EMPLOYED | PERSONS NOT PREVIOUSLY EMPLOYED | REASON GIVEN | PERSONS PREVIOUSLY EMPLOYED | PERSONS NOT PREVIOUSLY EMPLOYED |
|---|---|---|---|---|---|---|---|---|---|---|---|
| UNSPECIFIED | | | PARTIAL BLINDNESS | | | EPILEPTIC | | | EXPECTS TO BE | | |
| LOSS OF 1 ARM | | | BLINDNESS | | | MENTAL DISORDERS | | | CALLED BACK TO WORK | | |
| | | | PARALYSIS | | | [illegible] DISEASE | | | [illegible] | | |

Coordination

Line production of statistics is apt to prove a failure unless some provisions are made for making the many immediate judgments and decisions as to reasonableness and significance. Frequently, these decisions involve investigation of other sources, the preparation of check sorting runs, hand counts of schedules, etc. In addition, the columns of figures and piles of tables have little meaning unless interpreted.

The organization has always had a unit which was responsible for the performance of these functions. The procedure followed in preparing the County Bulletins on Unemployment will best demonstrate their relationship to the organization.

County Bulletins

A series of "dead lines" were prepared for each department so that the publication date for any county could be stated definitely and the production schedule mapped out in advance. The Archives Department searched other sources for supporting data and checked population. The Sorting Department completed the tallies, the Tally & Inspection Department recapitulated the information, the Tabulating Department prepared the tables, and the Publishing Department cut the stencils, proof-read everything for errors, and mimeographed the tables. The Research Workers had to keep a perpetual check on the schedule of operations to be sure that the dead line would be met and in addition they prepared text for the bulletins which was carefully gone over for diction by the Staff Editor before release.

In addition to these routine functions, it was the responsibility of these workers to prepare special reports, and to assist in the preparation of new sorting runs, tallies, schedules, instructions, etc. One special duty should be mentioned at this point. Earlier it was pointed out that cards were not punched for the entire population. Nevertheless, from time

to time requests for age distributions of the entire population were received. A voting machine has proved to be excellent for tabulating purposes. This is discussed in full in another section of this report.

# CHAPTER VII

# COST ACCOUNTING

## OUTLINE OF THE WORK COVERED BY THE FIGURES WHICH FOLLOW

1. Unemployment Survey of Pennsylvania

Field work consisted of an enumerator visiting a household and recording on a schedule information concerning all members of the household with regard to employment, economic status, and relationship. The enumeration covered all incorporated communities and any other communities having industrial or commercial importance.

Tabulation and analysis of data to December 15, 1934 has consisted in assembling the field data into 23 tables showing fundamental relationships and in publishing a Bulletin for each county in the State giving Preliminary Results on Unemployment.

The designation of the different phases of this work is as follows:

SS-1A - The Unemployment Survey in Allegheny and Philadelphia Counties completed before the other 65 counties were started.

SS-1B - The Unemployment Survey in the other 65 counties of the State with a modified schedule based on the experience in the first two counties.

SS-1A - Supplement in Philadelphia County only is a short schedule covering data on transportation, wages, automobile, etc., requested by the Philadelphia City Planning Commission which was taken with the SS-1A.

SS-3 - was an Intensive Survey of the employment history for the past five years of each person on every twenty-fifth page of each book of the SS-1A Survey and represented approximately a 4% sample of the county. This was carried on in 23 counties including Philadelphia and Allegheny.

SS-3A - was the same Intensive Schedule as SS-3 and covered all persons in one home in each block in Philadelphia County, approximately 17,500 households and comprised a 2% sample of the county.

2. Real Property Inventory in the Cities of Pittsburgh and Philadelphia

Field work consisted of an enumerator filling in a schedule for each structure in the city. In Pittsburgh this schedule and SS-IA were filled out on the same visit; in Philadelphia this schedule was filled out after the SS-IA Survey was completed.

Designation: Survey RPI in Pittsburgh

Survey SS-4 in Philadelphia

The tabulation of the data on these surveys has been more than 90% completed by December 15, 1934 and will be finished by March 1, 1935.

UNIT COSTS

UNEMPLOYMENT SURVEY OF PENNSYLVANIA

The unit cost figures have been worked out to measure the cost of the results on this survey and to be in usable shape for others who may be faced with a similar type of work and in need of cost units. Care has been taken for this reason to be specific in regard to the work that the unit figures cover.

The first principal division of the survey is as follows:

a. Field work - the taking of the original data

b. Tabulation and analysis of this data

Field work has a definite starting and completion date and on this survey was characterized by a large number of untrained people working about three weeks to complete it. Unit costs for field work on all surveys are complete because the work is finished.

The tabulation and analysis of the data from such survey is not definite as to completion on account of the almost endless information for different uses in different counties, cities, boroughs and townships that can be secured from the field data. Unit costs for this phase of the work

can only be given to a specific date and cannot be defined closely and specifically in a brief space. Care must be taken, therefore, in using these unit costs in other situations.

## Unit Costs for the State of Pennsylvania

The unit cost of the field work on the following pages is given in terms of the schedule, that is, each household visited by an enumerator, a total of 2,020,339 schedules covering 8,375,130 persons enumerated. The field work cost a total of $.106 for each of those persons enumerated.

With the schedule or household as a basis the cost of the field work is $.439 per schedule. The elements making up this unit are shown. These show that 82.5% of the total cost was paid to enumerators in the field. When it is realized that this percentage of the cost was paid out all over the State to approximately 13,475 people, that the average amount to each person was $54.35 and that the total amount all over the State to this troup of people amounted to $732,400, it is evident that the essential object of the Civil Works Administration was accomplished on this project.

The very low cost of the Harrisburg Central Office Supervision, .7%, is proof of the thorough, effective planning of the survey before it started, the selection of capable personnel for the general supervision and direction of the field work and the adoption of sound methods at the start for controlling the actual work in the field.

The unit cost for the tabulation and analysis of data to December 15, 1934 is given in terms of the schedule. It amounts to $.264 per schedule as far as the work has been carried. A large amount of work still remains to be done so this unit must be considered only as a relative measure.

## Variation of Field Costs

Conditions varied in every county throughout the State in regard to the effectiveness of supervision, general level of ability of people avail-

able as enumerators, size and number of incorporated communities and total population to be enumerated. For this reason the costs for three typical counties are shown for comparison and to show unit costs applicable to widely varying conditions.

These three counties are:

Philadelphia County - City Area

Union County - Thinly Populated Rural Area

York County - Thickly Populated Rural Area

Unit Cost of Field Work per Schedule

| | Phila. | York | Union |
|---|---|---|---|
| Harrisburg Central Office Supervision | $.003 | $.003 | $.003 |
| Area & Asst. Area Supervisors | .010 | .031 | .033 |
| Materials and Other Expense | .017 | .007 | .007 |
| Co. Admin. & Office Payroll | .012 | .061 | .123 |
| Field Work Payroll | .392 | .412 | .385 |
| Total | $.434 | $.514 | $.551 |
| Field Cost per Person Enumerated | $.108 | $.137 | $.174 |

The total cost of field work per schedule in the city area is some 21% less than the thinly populated rural area but the cost of actual field enumeration is surprisingly close together for the three counties in view of such widely varying conditions.

The field cost per person enumerated appears to be a better measure of the difference in conditions. In this unit the city area is 38% less in cost than the thinly populated rural area. It shows that in the city area there were more persons per household, probably due to families doubling up.

A unit cost of field work is shown for 65 counties omitting Allegheny and Philadelphia Counties, the two large city counties, The 65 counties represent about 62% of the number of schedules taken in the State and the unit figures are 4.6% higher than for the State as a whole. These figures represent a better unit cost to use when no large cities exist.

## UNIT COSTS

### REAL PROPERTY INVENTORY

This survey covered only Allegheny and Philadelphia Counties. The unit costs shown for comparison are especially interesting in view of the fact that the surveys were taken in two widely separated cities, differing very much in character, by two entirely different organizations working under very different conditions.

In Allegheny County this survey was made at the same time as the SS-IA Survey, that is, the enumerators carried both schedules with them. In Philadelphia this survey was made after the SS-IA Survey had been completed. The unit cost of the field work per schedule is practically the same but the unit cost per schedule for doing the two surveys at the same time in Allegheny County is 9% less than the unit cost of the two surveys in Philadelphia.

The tabulation of the data for Allegheny County was done in three places, namely, coding, key punching and card inspection in Harrisburg, machine tabulation in Philadelphia and the balance of tabulation and analysis in Pittsburgh. The tabulation of data for Philadelphia was done in Philadelphia. The two surveys are in about the same state of completion. The unit costs for the two cities are, therefore, directly comparable and are very nearly the same.

## UNIT COSTS

### UNEMPLOYMENT SURVEY OF PENNSYLVANIA - SS-1A and SS-1B

A schedule represents a household

State of Pennsylvania

| | | |
|---|---|---|
| Total Unit Cost of Field Work per Schedule | | |
| Harrisburg Central Office Supervision | $ .003 | .7% |
| Area & Asst. Area Supervisors | .021 | 4.8 |
| Materials & Other Expense | .011 | 2.5 |
| Co. Admin. & Office Payroll | .041 | 9.4 |
| Field Work Payroll | .363 | 82.6 |
| Total | $ .439 | 100.0% |
| Unit Cost per Schedule - Tabulation of Data to Dec. 15, 1934 | .264 | |
| Total Unit Cost per Schedule to Dec. 15, 1934 | $ .702 | |
| Number of Schedules | 2,020,339 | |
| Persons Enumerated | 8,375,130 | |
| Cost of Field Work per Capita Enumerated | .106 | |
| Cost of Tabulation and Analysis of Data to Dec. 15, 1934 per Capita Enumerated | .064 | |
| Total Cost per Capita Enumerated to Dec. 15, 1934 | $ .170 | |

### VARIATION OF FIELD COSTS - TYPICAL COUNTIES

Philadelphia County - City Area

| | | |
|---|---|---|
| Total Unit Cost of Field Work per Schedule | | |
| Harrisburg Central Office Supervision | $ .003 | |
| Area and Section Supervision | .010 | |
| Materials and Other Expense | .017 | |
| Co. Admin. & Office Payroll | .012 | |
| Field Work Payroll | .392 | |
| Total | .434 | |
| Number of Schedules | 462,576 | |
| Persons Enumerated | 1,862,032 | |
| Schedules per Enumerator on Payroll per Day | 15.1 | |
| Cost of Field Work per Capita Enumerated | $ .108 | |
| Field Rates of Pay - 39 hour week: District Supervisors | $30.00 | per week |
| Enumerators | 21.00 | per week |
| Field Rates of Pay - 30 hour week: District Supervisors | 23.00 | per week |
| Enumerators | 16.00 | per week |

## UNIT COSTS

### UNEMPLOYMENT SURVEY OF PENNSYLVANIA - SS-IA and SS-IB

### VARIATION OF FIELD COSTS - TYPICAL COUNTIES

**York County - Thickly Populated Rural**

| | | |
|---|---|---|
| Total Unit Cost of Field Work per Schedule | | |
| Harrisburg Central Office Supervision | | $ .003 |
| Area & Asst. Area Supervisors | | .031 |
| Materials and Other Expense | | .007 |
| Co. Admin. & Office Payroll | | .061 |
| Field Work Payroll | | .412 |
| Total | | $ .514 |
| Number of Schedules | 30,461 | |
| Persons Enumerated | 113,882 | |
| Cost of Field Work per Capita Enumerated | | $ .137 |

Field Rates of Pay - 24 hour week:

| | |
|---|---|
| District Supervisors | $19.20 per week |
| Enumerators | 12.00 per week |
| Enumerators with car | 14.00 per week |

**Union County - Rural area**

| | | |
|---|---|---|
| Total Unit Cost of Field Work per Schedule | | |
| Harrisburg Central Office Supervision | | $ .003 |
| Area & Asst. Area Supervisors | | .033 |
| Materials and Other Expense | | .007 |
| Co. Admin. & Office Payroll | | .123 |
| Field Work Payroll | | .385 |
| Total | | $ .551 |
| Number of Schedules | 3,735 | |
| Persons Enumerated | 11,858 | |
| Cost of Field Work per Capita Enumerated | | .174 |

| | |
|---|---|
| Average Urban Schedules per Enumerator per Day | 13.80 |
| Average Rural Schedules per Enumerator per Day | 13.81 |

Field Rates of Pay - 24 hour week:

| | |
|---|---|
| District Supervisors | $19.20 per week |
| Enumerators | 12.00 per week |
| Enumerators with car | 14.00 per week |

## UNIT COSTS

### UNEMPLOYMENT SURVEY OF PENNSYLVANIA - SS-IA and SS-IB

65 Counties - Omitting Philadelphia and Allegheny, the Two Large City Counties

| | |
|---|---|
| Total Unit Cost of Field Work per Schedule | |
| Harrisburg Central Office Supervision | $ .003 |
| Area & Asst. Area Supervisors | .027 |
| Materials and Other Expense | .008 |
| Co. Admin. & Office Payroll | .057 |
| Field Work Payroll | .363 |
| Total | $ .458 |

Number of Schedules 1,250,242

Tabulation and analysis of data

Coding -Unit Cost per Schedule ranged from $.054 after three months training and the perfection of methods of handling the work up to $.080 during the early period of the work.

Key Punching-Unit Cost per card after operators have had two months training $.020.

Card Inspection - Unit Cost per card $.010.

Sorting and Counting Department, Tally and Inspection Department and Tabulating Department.

There is no uniform unit of work for the operations carried on in these departments. Examples of the unit cost of specific jobs is given under Cost Accounting to illustrate costs in these departments.

## UNIT COSTS

### REAL PROPERTY INVENTORY

Allegheny County - Survey R.P.I.

| | |
|---|---|
| Total Unit Cost of Field Work per Schedule | |
| Harrisburg Central Office Supervision | $ .002 |
| Area and Regional Supervision | .015 |
| Materials and Other Expense | .005 |
| Co. Admin. & Office Payroll | .021 |
| Field Work Payroll | .336 |
| Total | $ .379 |
| Unit Cost per Schedule - Tabulation of Data to Dec. 15, 1934 | .339 |
| Total Unit Cost per Schedule to Dec. 15, 1934 | $ .718 |
| Number of Schedules 311,800 | |

Philadelphia County - Survey SS-4

| | |
|---|---|
| Total Unit Cost of Field Work per Schedule | |
| Harrisburg Central Office Supervision | $ .002 |
| Area and Section Supervision | .010 |
| Materials and Other Expense | .004 |
| Co. Admin. & Office Payroll | .002 |
| Field Work Payroll | .341 |
| Total | $ .359 |
| Unit Cost per Schedule - Tabulation and Analysis of Data to Dec. 1, 1934 | .317 |
| Total Unit Cost per Schedule to Dec. 1, 1934 | $ .676 |
| Number of Schedules 461,581 | |

## SUMMARY OF COSTS -- SURVEYS AND SPECIAL REPORTS

The cost of the surveys is shown in the following pages subdivided into field work and tabulation of data. The relative size of the different surveys carried on with respect to cost is as follows:

| | |
|---|---|
| SS-IA and SS-IB | 64% |
| SS-4 | 14% |
| RPI | 11% |
| SS-IA Supplement | 3% |
| SS-3 and SS-3A | 4% |
| Special Projects and Reports | 4% |

The Unemployment Survey, SS-IA and SS-IB, covered the whole state and is, therefore, the largest in total cost. The two Real Property Inventories represent together 25% of the total cost. Special Projects and Reports cover 24 items ranging in cost from $40 to $20,000 and totalling $83,094.14. They represent much special planning and supervision and difficult problems in arranging the proper personnel to carry them out.

## SUMMARY OF COSTS -- SURVEYS

### Survey SS-IA and SS-IB - Unemployment Survey of Pennsylvania

| | |
|---|---|
| SS-IA - Field Work (2 counties) | $314,329.67 |
| SS-IB - Field Work (65 counties) | 572,354.41 |
| Total Cost of Field Work (67 counties) | $886,684.08 |
| SS-IA & SS-IB - Tabulation and Analysis of Data to Dec. 15, 1934 | 534,474.88 |
| Cost of Survey to Dec. 15, 1934 | $1,421,158.96 |

### Survey SS-4 - Real Property Inventory - Philadelphia

| | |
|---|---|
| Total Cost of Field Work | $165,820.41 |
| Tabulation and Analysis of Data Cost to Dec. 1, 1934 | 137,558.42 |
| Cost of Survey to Dec. 1, 1934 | $303,378.83 |

### Survey - Real Property Inventory - Pittsburgh

| | |
|---|---|
| Total Cost of Field Work - RPI | $118,248.06 |
| Intensive | 13,138.68 |
| Tabulation and Analysis of Data Cost to Dec. 15, 1934 | 105,725.72 |
| Cost of Survey to Dec. 15, 1934 | $237,112.46 |

### Survey SS-Ia - Supplement for City Planning Commission - Philadelphia

| | |
|---|---|
| Total Cost of Field Work | $35,065.74 |
| Total Cost - Tabulation & Analysis of Data | 31,223.86 |
| Total Cost of Survey | $66,289.60 |

### Survey SS-3 and SS-3A

| | |
|---|---|
| SS-3 - Total Cost of Field Work - (25 counties) | $57,404.61 |
| SS-3A- Total Cost of Field Work - (Phila. County) | 26,336.01 |
| SS-3 & SS-3A - Cost of Coding and Punching to Dec. 15, 1934 | 5,728.32 |
| Cost of Survey to Dec. 15, 1934 | $89,468.94 |

## SUMMARY OF COSTS -- SPECIAL PROJECTS AND REPORTS

| | | |
|---|---|---|
| Survey SS-1 | Unemployment Survey of Pennsylvania Planned Dec. 15, 1934, but discontinued | $2,861.07 |
| Survey No. 51 | Coordination Procedure Between S.E.R.B. and Employment Offices | 20,328.24 |
| Survey No. 52 | Work Division Planning Unit | 7,926.96 |
| Survey No. 54 | Budget Secretary | 5,227.75 |
| Survey No. 55 | Dept. of Labor and Industry | 1,029.17 |
| Poor Board Survey | | 17,759.14 |
| Public Relations Advisers | | 1,906.64 |
| Analysis for Workmen's Compensation Bureau | | 3,205.04 |
| LS-B | Payroll Analysis of C.W.A. | 5,333.33 |
| Occupational Classification of C.W.A. Workers | | 2,381.58 |
| Survey No. 02 | Personnel Analysis for S.E.R.B. | 2,916.53 |
| Survey No. 03 | Personnel Analysis of Social Surveys | 5,018.41 |
| Field Survey for Mortgage Data and Costs in Pittsburgh | | 1,695.00 |
| Job No. 602 - Proposed Survey of Industry in Pennsylvania Preliminary Study Nov. 5, 1934 to Dec. 15, 1934 by Research Department | | 55.00 |
| Job No. 603 - Proposed Survey of Company Towns in Pennsylvania Preliminary Study Nov. 5, 1934 to Dec. 15, 1934 by Research Department | | 356.22 |
| Job No. 605 - Special Report for Bryn Mawr College covering Montgomery County and data for Conshohocken and West Conshohocken Special Report Complying with Request for Data Nov. 19, 1934 to Dec. 1, 1934 | | 96.84 |
| Job No. 606 - Report for Miss Bauer on the Number of Families and Number of Additional Families in Certain Selected Communities Special Report Complying with Request for Data Nov. 5, 1934 to Nov. 17, 1934 | | 42.38 |
| Job No. 608 - Income, Character of Employment, etc., for Federal Emergency Administration of Public Works by Specified Philadelphia Census Tract Special Report Complying with Request for Data Nov. 26, 1934 to Dec. 8, 1934 | | 170.79 |

## ANALYSIS OF COSTS

| | |
|---|---|
| Job No. 609 - Lists of Industries Employing 10 or More Persons in Philadelphia County for Bureau of Labor Statistics, Washington, D. C. | |
| Special Report Complying with Request for Data Dec. 3, 1934 to Dec. 15, 1934 | $114.95 |
| Job No. 613 - Occupational Classification of Relief Employables for Planning Unit, Works Division, S.E.R.B. | |
| Special Report - Dec. 3, 1934 to Dec. 15, 1934 | 1,030.63 |
| Cost of 8 issues of Digest from July 17, 1934 to Nov. 2, 1934 inclusive | 1,761.00 |
| Job No. 921 - Cost of Digest for Nov. 16, 1934 | 551.14 |
| Job No. 922 - Cost of Digest for Dec. 3, 1934 | 682.01 |
| Job No. 923 - Cost of Digest for Dec. 17, 1934 | 644.32 |
| Total | $83,094.14 |

COST OF FIELD WORK OF UNEMPLOYMENT SURVEY

The cost of Field Work for the Unemployment Survey from January 8 to May 24, 1934 is shown by counties on the following table. The column for "Harrisburg Central Office Supervision" is a portion of the payroll of the Harrisburg Administrative Staff pro-rated to each county on the basis of total county payroll. "Area Supervision" consists of the direct charges for wages paid to area supervisors, region or section supervisors and assistant county supervisors. "Materials and other Expenses" are items of light, heat and services; telephone and telegraph; furniture rental and office supplies directly incurred in each county and also a pro-rated charge for the cost of printing schedules. The column entitled "County, Administrative and Office" includes wages of county supervisors, assistant county supervisors, stenographers, draftsmen, timekeepers and clerks. The "Direct Field Work" covers the wages of the district supervisors and enumerators, including allowance for car. The "Total Column" includes all costs of Field Work. In computing the unit costs, the number of schedules were taken from the report of the Tabulating Division instead of the report of the Field Division.

The cost per schedule is shown for each county. At the bottom of the sheet is shown the average cost per schedule for the state, also the actual cost obtained by dividing the total cost for all counties by the total number of schedules turned in. The median cost per schedule is also shown.

The cost of Field Work on the SS-3 intensive studies is also shown in another table. The grouping of costs is on the same basis as indicated for the Unemployment Survey, except that the County Administrative and Direct Field Cost are grouped together as one item for each county. This intensive survey was only carried out in highly industrialized cities and boroughs in 25 counties of the state. The actual average and median cost per schedule is also shown.

SOCIAL SURVEYS

UNEMPLOYMENT SURVEY OF PENNSYLVANIA

COST OF FIELD WORK BY COUNTIES

TOTAL COSTS - JAN. 8 TO MAY 24,1934

| County | Harrisburg Cen. Office Supervision | Area Supervision | Materials and other Expense | COUNTY PAYROLL Administrative & Office | Field Work | TOTAL | Cost per Schedule | No. of Schedules |
|---|---|---|---|---|---|---|---|---|
| Adams | $23.58 | $222.23 | $110.39 | $686.45 | $2,741.07 | $3,783.72 | $.694 | 5,452 |
| Allegheny | 720.14 | 4,285.67 | 3876.55 | 6,425.81 | 98,271.23 | 113,579.40 | .369 | 307,521 |
| Armstrong | 60.16 | 567.07 | 227.05 | 1,285.30 | 7,460.65 | 9,600.23 | .679 | 14,133 |
| Beaver | 84.63 | 797.77 | 221.29 | 1,571.58 | 10,732.55 | 13,407.82 | .482 | 27,792 |
| Bedford | 20.48 | 193.04 | 107.52 | 825.24 | 2,152.04 | 3,298.32 | .772 | 4,273 |
| Berks | 124.40 | 1,172.63 | 205.85 | 1,960.62 | 16,124.89 | 19,588.39 | .391 | 50,128 |
| Blair | 85.50 | 805.90 | 182.60 | 1,515.11 | 10,914.26 | 13,503.37 | .437 | 30,895 |
| Bradford | 25.97 | 244.84 | 189.15 | 915.46 | 2,860.74 | 4,236.16 | .531 | 7,980 |
| Bucks | 48.64 | 458.54 | 141.29 | 977.05 | 6,095.02 | 7,720.54 | .457 | 16,901 |
| Butler | 49.86 | 469.98 | 197.73 | 1,045.74 | 6,202.75 | 7,966.06 | .614 | 12,974 |
| Cambria | 99.87 | 941.44 | 195.60 | 1,590.52 | 12,929.30 | 15,756.73 | .410 | 38,395 |
| Cameron | 7.18 | 67.71 | 33.51 | 307.60 | 736.77 | 1,152.77 | .910 | 1,267 |
| Carbon | 54.23 | 511.20 | 59.19 | 1,134.13 | 6,750.21 | 8,508.96 | .624 | 13,632 |
| Centre | 25.22 | 237.73 | 56.64 | 1,056.30 | 2,610.31 | 3,986.20 | .494 | 8,061 |
| Chester | 59.22 | 558.28 | 382.20 | 1,395.10 | 7,215.23 | 9,610.03 | .400 | 24,048 |
| Clarion | 26.46 | 249.49 | 97.64 | 850.64 | 2,997.28 | 4,221.51 | .693 | 6,089 |
| Clearfield | 49.39 | 465.54 | 203.41 | 1,323.21 | 5,856.84 | 7,898.39 | .515 | 15,323 |
| Clinton | 26.42 | 249.02 | 50.51 | 652.34 | 3,188.30 | 4,166.59 | .624 | 6,674 |
| Columbia | 36.21 | 341.33 | 51.69 | 813.63 | 4,450.67 | 5,693.53 | .609 | 9,344 |
| Crawford | 26.01 | 245.17 | 102.05 | 857.56 | 2,923.80 | 4,154.59 | .402 | 10,342 |
| Cumberland | 46.73 | 440.55 | 52.90 | 1,207.33 | 5,487.40 | 7,334.91 | .513 | 14,303 |
| Dauphin | 112.63 | 1,061.74 | 299.74 | 1,437.73 | 14,937.56 | 17,849.40 | .493 | 36,199 |
| Delaware | 143.01 | 1,348.11 | 406.52 | 1,822.01 | 18,969.99 | 22,689.64 | .340 | 66,754 |
| Elk | 26.53 | 250.08 | 107.56 | 621.80 | 3,235.19 | 4,241.16 | .669 | 6,339 |
| Erie | 93.61 | 882.45 | 428.17 | 1,803.33 | 11,806.74 | 15,014.30 | .408 | 36,810 |
| Fayette | 110.35 | 1,040.15 | 152.43 | 1,657.65 | 14,384.70 | 17,345.28 | .476 | 36,465 |
| Forest | 6.77 | 63.81 | 20.66 | 283.92 | 700.21 | 1,075.37 | .893 | 1,204 |
| Franklin | 37.00 | 348.75 | 234.14 | 1,156.15 | 4,222.70 | 5,998.74 | .555 | 10,804 |
| Fulton | 7.00 | 66.00 | 39.92 | 387.31 | 630.54 | 1,130.77 | 1.417 | 798 |
| Greene | 18.06 | 170.25 | 54.36 | 769.74 | 1,856.10 | 2868.51 | .456 | 6,288 |
| Huntingdon | 31.50 | 296.93 | 31.28 | 903.29 | 3,676.30 | 4939.30 | .708 | 6,972 |
| Indiana | 57.85 | 545.27 | 101.33 | 1,235.27 | 7,174.40 | 9114.12 | .683 | 13,341 |
| Jefferson | 35.11 | 331.01 | 108.34 | 945.57 | 4,159.56 | 5,579.59 | .526 | 10,608 |
| Juniata | 20.29 | 191.28 | 34.00 | 797.46 | 2,152.70 | 3,195.73 | 1.226 | 2,607 |
| Lackawanna | 193.55 | 1,824.47 | 336.49 | 1,273.21 | 26,865.70 | 30493.42 | .474 | 64,362 |
| Lancaster | 68.95 | 649.96 | 241.72 | 1,424.88 | 8,599.52 | 10,985.03 | .287 | 38,303 |
| Lawrence | 61.48 | 579.52 | 212.81 | 834.69 | 8,103.43 | 9,791.93 | .512 | 19,115 |
| Lebanon | 38.59 | 363.72 | 81.26 | 1,010.44 | 4,599.16 | 6093.17 | .429 | 14,205 |
| Lehigh | 112.76 | 1,062.87 | 244.88 | 1,331.67 | 15,061.09 | 17813.27 | .448 | 39,726 |
| Luzerne | 187.12 | 1,763.81 | 690.88 | 3,310.23 | 23,893.13 | 29845.17 | .325 | 91,826 |
| Lycoming | 65.21 | 614.70 | 208.42 | 1,688.35 | 7,792.11 | 10,368.79 | .513 | 20,192 |
| McKean | 32.14 | 303.02 | 144.49 | 818.96 | 3,854.46 | 5,153.07 | .452 | 11,399 |
| Mercer | 45.18 | 425.83 | 82.48 | 1,266.40 | 5,301.31 | 7,121.20 | .378 | 18,830 |
| Mifflin | 31.54 | 297.33 | 47.51 | 906.89 | 3,678.83 | 4,962.10 | .637 | 7,786 |
| Monroe | 22.67 | 213.66 | 43.10 | 704.99 | 2,590.25 | 3,574.67 | .609 | 5,866 |
| Montgomery | 152.18 | 1,434.53 | 598.82 | 1,759.66 | 20,365.24 | 24,310.43 | .429 | 56,698 |
| Montour | 11.55 | 108.82 | 25.52 | 454.21 | 1,224.20 | 1,824.30 | .754 | 2,420 |
| Northampton | 110.36 | 1,040.25 | 225.49 | 1,523.14 | 14,520.76 | 17,420.00 | .463 | 37,640 |
| Northumberland | 64.23 | 605.47 | 193.87 | 1,067.37 | 8,270.85 | 10,201.79 | .401 | 25,448 |
| Perry | 17.15 | 161.65 | 42.06 | 530.90 | 1,962.22 | 2,713.98 | .746 | 3,640 |
| Philadelphia | 1,285.60 | 4,722.92 | 7837.57 | 5,357.90 | 181,546.28 | 200,750.27 | .434 | 462,576 |
| Pike | 10.15 | 95.69 | 30.95 | 389.00 | 1,086.85 | 1,612.64 | .762 | 2,117 |
| Potter | 13.79 | 129.96 | 23.77 | 560.10 | 1,444.22 | 2,171.84 | .573 | 3,792 |
| Schuylkill | 120.25 | 1,133.54 | 200.94 | 1,805.34 | 15,677.30 | 18,937.37 | .400 | 47,291 |
| Snyder | 11.34 | 106.86 | 74.12 | 478.60 | 1,169.60 | 1,840.52 | .526 | 3,499 |
| Somerset | 33.22 | 313.10 | 59.12 | 983.30 | 3,905.59 | 5,234.33 | .445 | 11,766 |
| Sullivan | 11.03 | 103.98 | 51.64 | 575.60 | 1,028.03 | 1,770.28 | 1.054 | 1,680 |
| Susquehanna | 22.08 | 208.15 | 77.87 | 912.12 | 2,298.23 | 3,518.45 | .593 | 5,933 |
| Tioga | 26.27 | 247.66 | 168.67 | 966.61 | 2,853.03 | 4,262.24 | .706 | 6,036 |
| Union | 13.06 | 123.06 | 25.08 | 460.49 | 1,437.50 | 2,059.19 | .551 | 3,735 |
| Venango | 40.58 | 382.53 | 138.23 | 1,172.78 | 4,727.07 | 6,461.19 | .540 | 11,971 |
| Warren | 19.88 | 187.40 | 46.45 | 708.03 | 2,182.18 | 3,143.94 | .391 | 8,034 |
| Washington | 111.86 | 1,054.42 | 343.27 | 1,585.11 | 14,677.25 | 17,771.91 | .451 | 39,387 |
| Wayne | 21.95 | 206.87 | 48.79 | 605.99 | 2,584.66 | 3,468.26 | .643 | 5,393 |
| Westmoreland | 145.61 | 1,372.60 | 309.76 | 1,744.78 | 19,424.88 | 22,997.63 | .414 | 55,576 |
| Wyoming | 13.42 | 126.54 | 51.04 | 745.84 | 1,205.76 | 2,142.60 | .734 | 2,920 |
| York | 99.14 | 934.52 | 212.10 | 1,848.31 | 12,564.90 | 15,658.97 | .514 | 30,461 |
| TOTAL | $5,613.90 | $43,020.37 | $21,882.38 | $83,063.84 | $733,103.59 | $886,684.08 | | 2,020,339 |
| Cost per Schedule | $.003 | $.021 | $.011 | $.041 | $.363 | $.439 | | |
| Average cost per Schedule | | | | | | | $.568 | |
| Median Cost per Schedule | | | | | | | $.514 | |

SOCIAL SURVEYS

UNEMPLOYMENT SURVEY OF PENNSYLVANIA

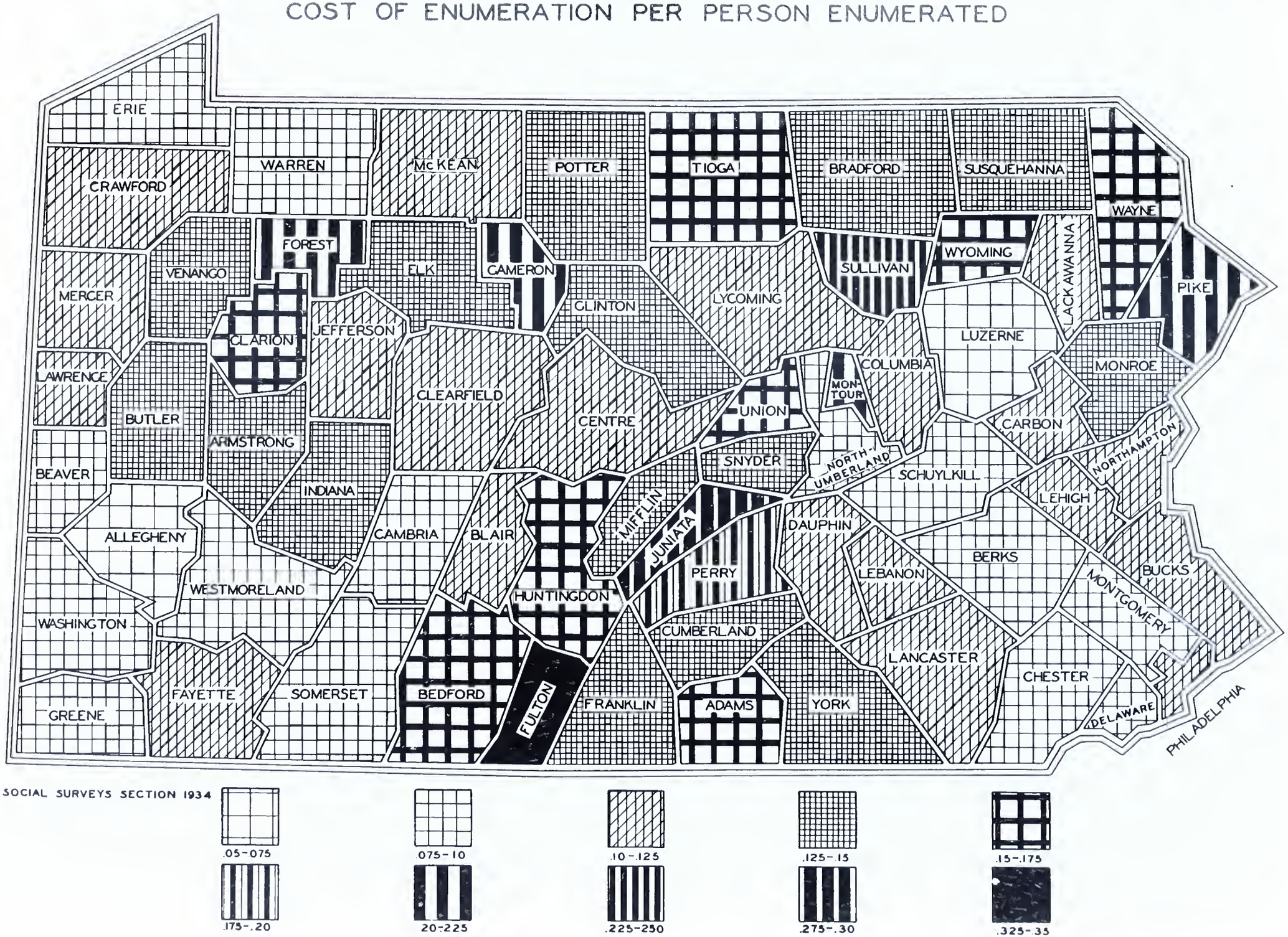
4% INTENSIVE STUDY - SCHEDULE SS-3

COST OF FIELD WORK BY COUNTIES

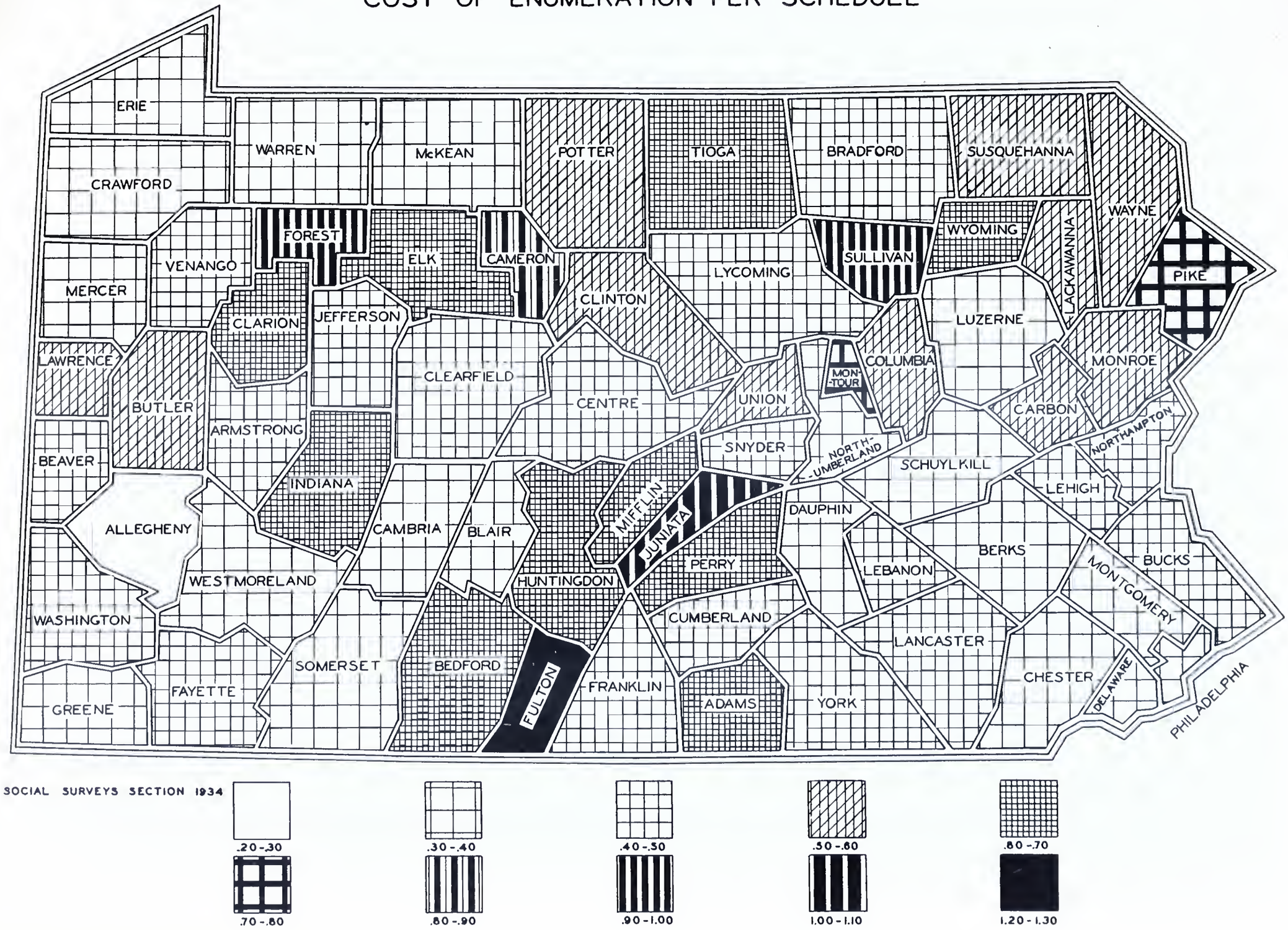
TOTAL COSTS - JAN. 8 TO MAY 24, 1934

| COUNTY | Harrisburg Cen. Office Supervision | Area Supervision | Materials and other Expense | County Payroll Field Work | TOTAL | Cost per Schedule | No. of Schedules |
|---|---|---|---|---|---|---|---|
| Allegheny | $63.74 | $379.33 | $221.49 | $9,265.77 | $9,930.33 | $1.075 | 9,239 |
| Beaver | 1.68 | 15.85 | 3.04 | 244.44 | 265.01 | .889 | 298 |
| Berks | 6.97 | 65.74 | 18.39 | 1,013.86 | 1,104.96 | .613 | 1,802 |
| Blair | 6.24 | 58.82 | 12.94 | 907.20 | 985.20 | .777 | 1,268 |
| Cambria | 8.67 | 81.70 | 9.84 | 1,260.00 | 1,360.21 | 1.411 | 964 |
| Cameron | .34 | 3.21 | .65 | 49.50 | 53.70 | .839 | 64 |
| Carbon | 1.39 | 13.11 | 1.69 | 202.20 | 218.39 | 1.316 | 166 |
| Chester | 2.50 | 23.52 | 2.40 | 362.67 | 391.09 | 1.664 | 235 |
| Clarion | .60 | 5.64 | .58 | 86.92 | 93.74 | 1.645 | 57 |
| Dauphin | 6.28 | 59.19 | 14.20 | 912.92 | 992.59 | .711 | 1,396 |
| Elk | 1.25 | 11.76 | 3.18 | 181.33 | 197.52 | .635 | 311 |
| Erie | 16.96 | 159.88 | 17.68 | 2,465.80 | 2,660.32 | 1.535 | 1,733 |
| Fayette | 4.66 | 43.96 | 5.30 | 678.00 | 731.92 | 1.410 | 519 |
| Jefferson | .50 | 4.70 | .66 | 72.44 | 78.30 | 1.205 | 65 |
| Lackawanna | 23.86 | 224.95 | 32.18 | 3,469.40 | 3,750.39 | 1.189 | 3,154 |
| Lawrence | 4.24 | 39.95 | 8.06 | 616.20 | 668.45 | .846 | 790 |
| Lebanon | 2.79 | 26.29 | 4.41 | 405.50 | 438.99 | 1.016 | 432 |
| Lehigh | 11.83 | 111.50 | 19.08 | 1,719.64 | 1,862.05 | .996 | 1,870 |
| Luzerne | 33.97 | 320.15 | 50.38 | 4,938.00 | 5,342.50 | 1.082 | 4,938 |
| Lycoming | 3.37 | 31.75 | 7.45 | 489.60 | 532.17 | .729 | 730 |
| Northampton | 9.74 | 91.84 | 11.05 | 1,416.42 | 1,529.05 | 1.412 | 1,083 |
| Philadelphia | 144.64 | 531.37 | 636.49 | 21,028.00 | 22,340.50 | 1.209 | 18,473 |
| Venango | 6.15 | 57.98 | 4.60 | 894.28 | 963.01 | 2.135 | 451 |
| Washington | 3.71 | 35.01 | 5.75 | 540.00 | 584.47 | 1.038 | 563 |
| Westmoreland | 2.10 | 19.80 | 2.45 | 305.40 | 329.75 | 1.374 | 240 |
| TOTAL | $368.18 | $2,417.00 | $1,093.49 | $53,525.49 | $57,404.61 | | 50,841 |
| Cost per Schedule | $.007 | $.047 | $.022 | $1.053 | $1.129 | | |
| Average cost per Schedule | | | | | | $1.150 | |
| Median cost per Schedule | | | | | | $1.082 | |
| Philadelphia | $171.17 | $628.83 | $651.11 | $24,884.90 | $26,336.01 | | 22,390 |
| Cost per Schedule | $.008 | $.028 | $.029 | $1.111 | $1.176 | | |

# COST OF ENUMERATION PER PERSON ENUMERATED



# COST OF ENUMERATION PER SCHEDULE




SOCIAL SURVEYS SECTION 1934

.20-.30 .30-.40 .40-.50 .50-.60 .60-.70

.70-.80 .80-.90 .90-1.00 1.00-1.10 1.20-1.30

## COST OF THE UNEMPLOYMENT RELIEF DIGEST

The estimated costs listed in the tables cover the following items: editing, typing, proof-reading, mimeographing or multilithing, assembling, and mailing. The time of the contributors is not charged.

The multilith process is used because of the good appearance of the work, an inexpensive grade of paper can be used, printing can be done on both sides of the page, tables and diagrams may be drawn directly on the zinc plates or reproduced by a photographic process. It is somewhat more expensive for small runs than the mimeograph process.

### QUANTITY PRINTED

#### Mimeographed

| Digest Number | Date | Number of pages | First Run | Reruns 1 | Reruns 2 | Reruns 3 | Total | Estimated Cost per Page | Estimated Total Cost |
|---|---|---|---|---|---|---|---|---|---|
| 1 | July 17,1934 | 11 | 50 | 25 | 35 | 100 | 210 | $8.00 | $88.00 |
| 2 | Aug. 3,1934 | 19 | 60 | 25 | 35 | 100 | 220 | 8.00 | 152.00 |
| 3 | Aug. 17,1934 | 18 | 75 | 30 | 35 | 100 | 240 | 8.00 | 144.00 |
| 4 | Sept. 4,1934 | 20 | 125 | 30 | 35 | 100 | 290 | 8.00 | 160.00 |
| 5 | Sept.17,1934 | 25 | 160 | 35 | 40 | 100 | 335 | 8.00 | 200.00 |
| 6 | Oct. 3,1934 | 24 | 185 | 35 | 40 | 100 | 360 | 8.00 | 192.00 |
| 7 | Oct. 17,1934 | 30 | 200 | 35 | 40 | 100 | 375 | 8.00 | 240.00 |

#### Multilithed*

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 8 | Nov. 2,1934 | 39 | 225 | -- | -- | ---- | 225 | 15.00 | 585.00 |
| 9 | Nov. 16,1934 | 43 | 235 | -- | -- | --- | 235 | 13.00 | 551.00 |
| 10 | Dec. 3,1934 | 47 | 316 | -- | -- | --- | 316 | 14.00 | 682.00 |
| 11 | Dec. 17,1934 | 49 | 500 | -- | -- | --- | 500 | 13.00 | 660.00 |

* These issues cannot be duplicated without the making of new plates.

## COST OF THE MAINTENANCE DEPARTMENT

The Maintenance Department has been responsible for building much of equipment required by the factory departments such as tables, files, shelves, and racks and with the work of installing the I.B.M. Sorting Machines and connecting up electrically operated hand tabulating machines and key-punching machines. The Doehne Building was equipped for occupancy in January and in July all equipment was moved from there to the Museum Building. The motor generator set was moved and installed in the basement of the latter building and the wiring to the machines salvaged and used again.

Expenditures by class of work for the department were as follows:

| | C.W.A. | Work Division | Work Relief | Total |
|---|---|---|---|---|
| Carpenters | 2,926.80 | 2,535.31 | 196.00 | 5,655.11 |
| Painters | 420.65 | 120.71 | --- | 541.36 |
| Plasters | --- | 48.76 | --- | 48.76 |
| Laborers | 13.50 | 1,134.51 | 218.75 | 1,366.76 |
| Electricians | 188.40 | 896.51 | --- | 1,084.97 |

The charge for electricians under work Division included cost of 40 men for a week to tear down all machinery and lines in the Doehne Building and install a new service for machines in the Museum Building.

Tabulation of Work Costs for Jobs Completed
January, 1934 to December, 1934

| | |
|---|---|
| Construction of 75 tables (Coding and Key Punch) | 492.50 |
| Construction of 2 tables | 8.80 |
| Building Shelves (Supply Room) | 40.80 |
| Building 2 Schedule Files | 368.38 |
| Construction of Schedule Trays on Coding Tables | 134.04 |
| Building Parcel Racks on Tables | 75.53 |
| 2 Card Sorting Racks | 40.48 |
| Installing Messenger Call System | 3.56 |
| Rearrangement of Circuits for Desk Lights | 4.88 |
| Schedule Shelves for Inspection Tables | 35.93 |
| Installing Additional Ceiling Light (Key Punch Dept.) | 1.70 |
| Installing Box Over Thermostat and Lock on Heat Room | 3.15 |

| | |
|---|---|
| Shelves Built in Supervisors' Office (Second Floor) | 4.56 |
| Three Additional Card Files | 977.36 |
| Tally Sheet Shelves in Supply Room | 13.62 |
| Six Additional Coding Tables | 35.47 |
| Repairing Tile Floor at Main Entrance | 14.00 |
| Four Dollies for Schedule Filing Department | 9.60 |
| 100 Schedule Filing Boxes | 169.91 |
| One Drawing Table | 12.91 |
| Ventilators for Second Floor Windows | 11.00 |
| Partitions in Baily Mansion | 2.00 |
| Six Coding Tables | 37.55 |
| Office for Mr. Pitkin | 52.27 |
| Rebuilding Feeder Lines on Sorting Machine | 80.51 |
| Extension of Feed Line for Key Punch Machines | 21.05 |
| 1 Mimeograph Table | 20.56 |
| 3 Coding Tables (with drawers) | 31.47 |
| 2 Typewriter Tables | 22.46 |
| 1 Additional Schedule Filing Cabinet | 119.68 |
| 1 Tally Sheet Filing Cabinet | 30.80 |
| 1 Map Cabinet (For Mr. Pitkin's Office) | 70.00 |
| 4 Filing Cabinets | 135.48 |
| Stencil Filing Cabinet | 9.00 |
| 29 Sorting Racks (For Sorting Tables) | 150.00 |
| Total..... | 3,280.33 |

The prices for some of the work tables and files may seem high but a cheap work table in the open market costs $10.00. They were made by Social Surveys at an average price of $5.00.

Card files cost us $977.36. The same files, if bought in the open market, would have cost $4,500. Schedule files were built at a cost of $500 per unit whereas open market bids on schedule files vary from $22.00 to $45.00. With a series of schedule files amounting to 160 units, the saving to the State Emergency Relief Board is appreciable.

## REPORT ON FIRST AID SERVICE AND COSTS

The accompanying tabulation shows the number, kind, and cost of first aid treatments administered by the Staff Nurses to the workers during the period of greatest activity at the Doehne Building. Each shift had a worker designated as Nurse; in all cases, the designated worker had medical training. The reports were made on special mimeographed sheets, for each case treated.

The building in which the work was done is a two-story, flat-roofed structure, which, although offering the only suitable floor space for the project, was somewhat unsuited for clerical work during hot weather, particularly the second floor. The tar and felt base roof soaked up and retained the heat of the sun until after midnight, and the cross ventilation, although good, did not relieve this condition.

The total cost of money invested in supplies and time lost per person per month is $.204. This, in comparison to other cost reports, is average or under industrial plants and high when compared to most clerical organizations. However, there is no exact parallel with which to compare the Social Surveys. The Survey work included the training of unskilled workers; building frames, boxes, files, and rooms, by carpenters;and installation of numerous electric circuits and machines by a group of fifty electricians. The maintenance of 100 key punch machines, 29 sorters, one printer, 48 lighting circuits and a motor generator set were performed by two men for whom no first aid is reported. Thus we have a mixture of industrial and clerical work for which we have no comparable project or industry.

The average time lost per case is high because in twenty cases the nurse sent home the person treated at the beginning of the work period and

thus caused time loss of six hours. In all cases, the nurses time is shown equal to the time lost by the patient although it was not the same in most cases of long duration. The nurse, after having made the patient comfortable, went back to her work of coding or key punching.

Of 203 abrasions, splinters, cuts, and bruises, 154 cases were reported by laborers and messengers whose duty compelled them to handle rough lumber boxes of Hollerith Cards. There were no falls or injuries due to unsafe conditions of stairs and hallways. It would have been possible to reduce the treatments given 55.5% if first aid had been given only to occupationally induced injuries but those in charge of the work felt that first aid should be given for any injury. In no case do we find any occupational injury leading to more than six hours lost time.

Number of Persons Receiving First Aid by Classification

| | | No. 1 Section | No. 2 Section | No. 3 Section |
|---|---|---|---|---|
| a. | Abrasions, cuts, bruises, splinters | 58 | 22 | 123 |
| | Asthma | 2 | | |
| | Boils | 2 | 3 | 19 |
| | Bilious | 10 | 2 | 2 |
| | Burns | 13 | 7 | 8 |
| | Colds | 16 | 2 | 3 |
| | Dymonsorrenh | 27 | 6 | 43 |
| b. | Eye (Foreign Matter) | 14 | 4 | 11 |
| c. | Eyestrain | 15 | 7 | 8 |
| | Earache | 7 | 1 | |
| d. | Fainting | | | 32 |
| e. | Headache | 149 | 56 | 158 |
| | Heartburn | 2 | 2 | |
| f. | Heat Exhaustion | 3 | 4 | 5 |
| | Hemorrhage | 2 | | |
| | Indigestion | 84 | 24 | 44 |
| | Infection | 39 | 6 | 12 |
| g. | Nerves | 11 | 13 | 4 |
| | Pregnancy | 2 | | |
| | Poison Ivy | 3 | 4 | 7 |
| | Rashes | 2 | | 2 |
| | Sunburn | 3 | 2 | 3 |
| | Sore Throat | 20 | 3 | 5 |
| | Toothache | 15 | 2 | 12 |
| | Nausea | | 10 | 12 |
| | Neuritis | | 1 | |
| | Total | 499 | 181 | 513 |

The time cost of attendants appears in all totals shown

| | | | |
|---|---|---|---|
| Occupational Injuries ( a b c d e f g ) | Section 1 | 250 | |
| | Section 2 | 106 | |
| | Section 3 | 341 | |
| | Total | 697 - 58% | |
| Non-occupational Injuries (remainder) | Section 1 | 249 | |
| | Section 2 | 75 | |
| | Section 3 | 172 | |
| | Total | 496 - 42% | |
| Grand Total | | | 1193 |

| | |
|---|---|
| Cost of First Aid equipment & Supplies | $84.88 |
| Cost of Time Lost | 400.68 |
| Total | $485.56 |

| | | |
|---|---|---|
| 58% | Cost of Occupational First Aid | $281.62 |
| 42% | Cost of Non-occupational First Aid | 203.94 |

| | | |
|---|---|---|
| | Average time lost per case | 36 minutes |
| | Total time lost | 742 hours |
| 58% | Occupational | 430 hours |
| 42% | Non-occupational | 312 hours |

| | |
|---|---|
| Cost of time lost per case treated | .324 |
| Total cost per person entire period | .809 |

## COST ACCOUNTING

A cost accounting system was started on October 22, 1934, to show production costs in the classification and analysis of data for the Unemployment Survey of Pennsylvania, and for the other surveys and special work done by the organization. The basis of identification of divisions and departments in the organization is shown on following pages. The larger projects carried on are given survey numbers and the work subdivided into units by job numbers and by numbers for the political subdivisions. The job numbers for the work of tabulating and analyzing the data usually apply to one or two departments due to the change in character of work as the data progresses in compilation.

The breakdown of the work of tabulating and analyzing the data for the Unemployment Survey of Pennsylvania is shown in the list of job numbers which follow. Up to December 15, 1934, 56 job numbers have been used in working up the data. Each one of these apply to the 67 counties of the State (the county being the usual political sub-division) for which it is desired to segregate any class of data. This list of job numbers indicates the kind of information tabulated so far for this Survey.

Special reports and investigations not connected with the Unemployment Survey are identified by a series of job numbers separate from the others. A large number of inquiries for information come in which frequently require work costing up to $100 to prepare. Some such inquiries are immediately cancelled when an estimate of the probable cost can be given. Proper credit to the organization for such work can only be obtained by figures showing the work required to prepare such reports.

The assembly of cost data on work in progress is as follows:

A - The foreman of each shift makes a distribution of time in his department each day under these headings: political division, survey number,

job number, total cards or sheets, man hours, and machine hours. This accounts for all direct labor in his department.

B - At the end of the week for each entry on the foreman's daily distribution sheet, the following cost entries are made: production labor cost machine cost, material cost, departmental clerical overhead, departmental supervision, and general administration overhead. Clerical and supervisory overhead are taken from the payroll total and prorated on the bases of man hours. Administrative overhead is taken from the payroll, adjustments made for special items, and then prorated on the basis of total man hours of direct labor.

Machine cost or rental for each department is prorated on the basis of man hours.

Material cost so far has consisted entirely of supplies, consisting of many items of small value, not justifying separate account being made of them to departments. This cost item has therefore been prorated with administrative cost so far but provision has been made to take care of this separately whenever conditions so warrant.

A total for these separate items gives the total cost of each entry made by the foreman and gives a complete distribution of all costs to specific jobs.

C - A summation of these cost details is made by punching the information on Hollerith cards and running them on a sorting machine for totals each week. Under the conditions of work at the end of the year about 500 cards were punched each week.

An 80 column Hollerith card is used arranged as follows:

| Field | Column |
|---|---|
| Shift - (For card punching identification) | 1 |
| Operator - (For card punching identification) | 2-3 |

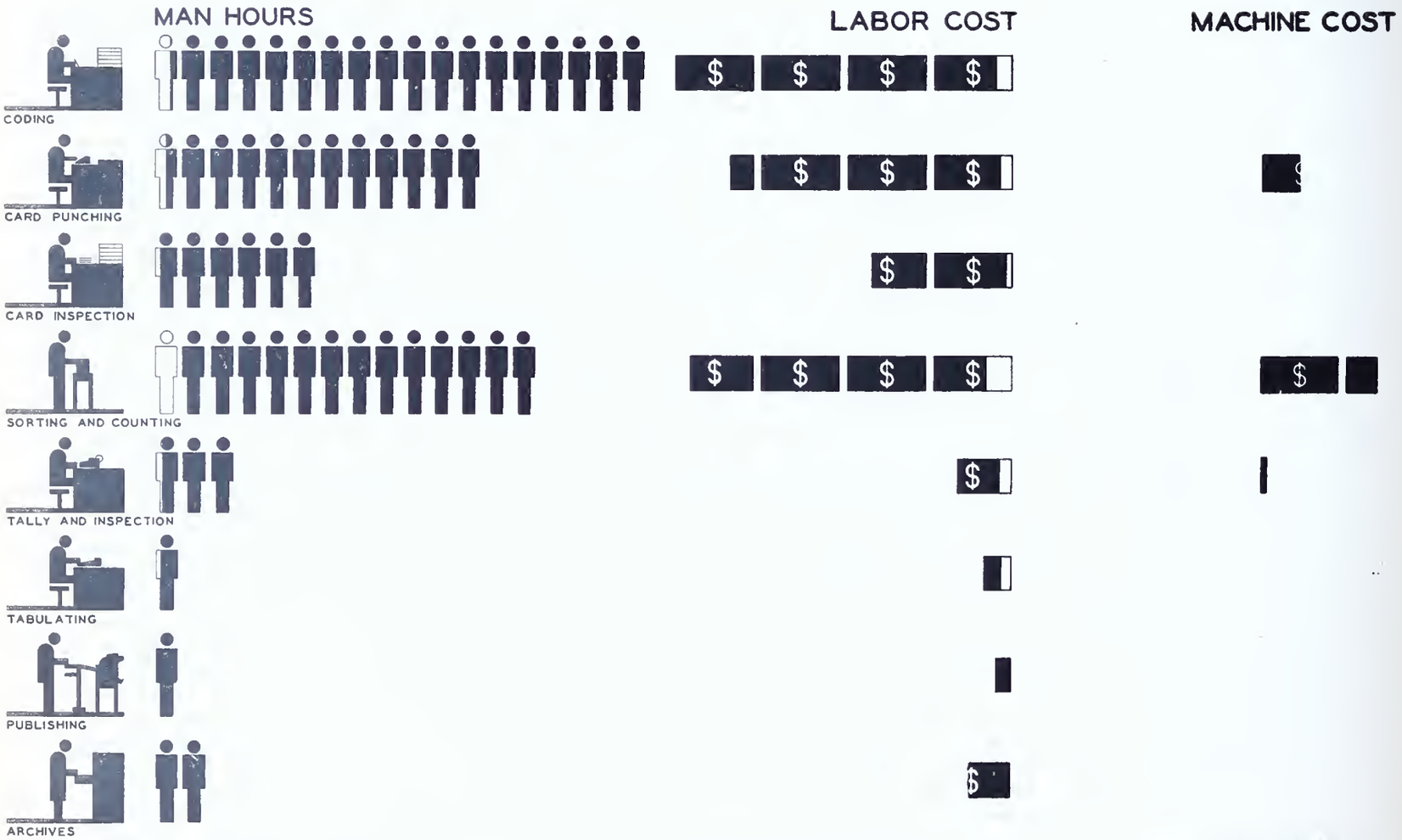
| Field | Column |
|---|---|
| Department Number | 4-5-6 |
| Date - Month, Day, Year | 7-8-9-10-11-12 |
| Shift | 13 |
| Political Division | 14-15 |
| Survey Number | 16-17-18 |
| Job Number | 19-20-21-22 |
| Total Cards or Sheets | 23-24-25-26-27-28 |
| Man Hours | 29-30-31-32 |
| Machine Hours | 33-34-35-36 |
| Productive Labor Cost | 37-38-39-40-41-42 |
| Machine Cost | 43-44-45-46-47 |
| Material Cost | 48-49-50-51-52 |
| Clerical Overhead | 53-54-55-56-57 |
| Supervisory Overhead | 58-59-60-61-62 |
| Administrative Overhead | 63-64-65-66-67-68 |
| Total Cost | 69-70-71-72-73-74-75-76 |
| Punch "O" | 77 |
| Special Classification | 78-79-80 |

These cards are run at once on the printing tabulator to classify the costs under survey numbers, job numbers and departments. The department totals obtained from these figures can be checked against corresponding totals from the daily cost sheets and any errors in punching cards detected and corrected. These weekly totals by departments by job numbers are entered on a cost summary sheet for each job number. This shows departmental costs each week for each job with the total weekly cost. A sample of this Cost Summary Sheet is included.

D - Jobs entailing expenditures of over $100 for each week are run on the printing tabulator to get total quantities produced and totals of all separate cost items for analysis. Unit costs are then determined for comparative purposes. On much of the work in making up tables in the Tally and Inspection Department and the Tabulating Department these unit cost figures must be considered relative as no uniform unit of work exists. Samples of these unit costs for all departments are given.

E - Total cost for any political subdivision such as a county for any job number or group of job numbers can be obtained by running the cards for

# TOTAL MAN HOURS, MACHINE HOURS AND COST OF PRODUCTIVE LABOR BY DEPARTMENTS




EACH OUTLINE FIGURE REPRESENTS
10,000 SUPERVISORY MAN HOURS

EACH SOLID FIGURE REPRESENTS
10,000 MAN HOURS OF PRODUCTIVE LABOR

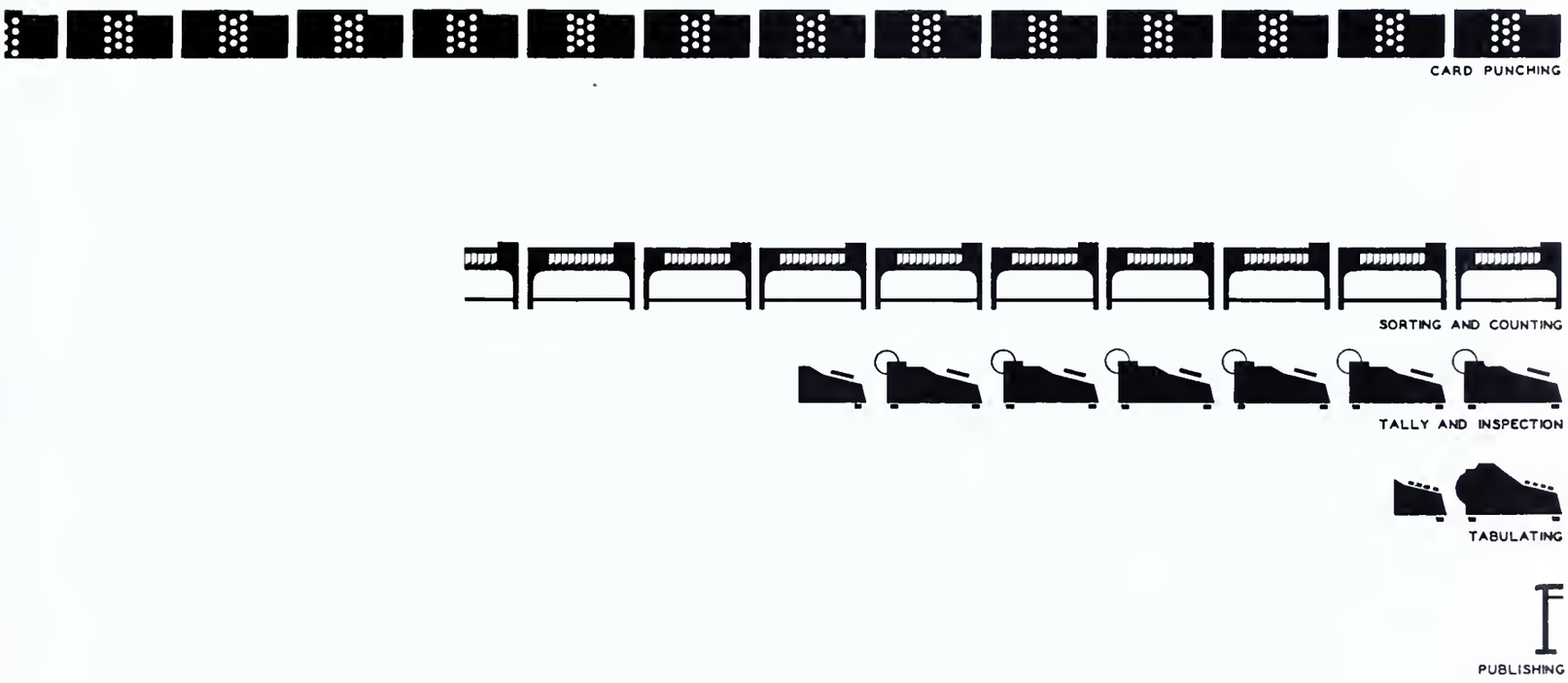
EACH OUTLINE SYMBOL REPRESENTS
20,000 DOLLARS PAID FOR SUPERVISION

EACH SOLID SYMBOL REPRESENTS
20,000 DOLLARS PAID FOR PRODUCTIVE LABOR

EACH COMPLETE SYMBOL
REPRESENTS 20,000 DOLLARS
PAID FOR MACHINES

SOCIAL SURVEYS SECTION 1934

MACHINE HOURS




EACH COMPLETE SYMBOL
REPRESENTS 10,000 HOURS

SOCIOGRAPHICS PHILADELPHIA

summation on this basis for the period of time the work was carried on. A sample of this is included.

When more than one shift is working in a department, the cards can be run to measure the comparative production of each in quantity and cost on any job numbers where conditions are directly comparable. Over a period it is possible to compare the results in quantities and costs of day shifts and night shifts.

## COMPARATIVE WEEKLY UNIT COSTS BY JOB NUMBERS

During the short period of time for which cost accounting figures are available in detail, it has been evident that the unit costs on the same job number in a department varied as much as 100% from week to week. This is illustrated in the following tables where unit costs for a number of weeks under one job number are shown. Investigation in the department has disclosed that working conditions are not at all uniform from week to week and that original data from one political subdivision will work up much faster and with less trouble than from another. Dominant factors affecting these unit cost figures are variation of population in the counties, variation of the number of political subdivisions, unusual difficulties in getting data to balance and check and turn over of personnel on work requiring considerable training. Over a longer period of time these factors will average up and representative unit costs can be ascertained. The figures given indicate the unit costs for the job numbers given and show the wide variation of cost of the different jobs.

## SOCIAL SURVEYS

### Comparative Unit Costs by Job Numbers

### Unemployment Survey of Penna. in 1934.

The tables below illustrate the variation of unit costs in the Sorting and Counting Department on the same Job Numbers from week to week. Cards Col. 1, are given in thousands. All other columns are computed per thousand cards.

JOB No. 008 DEPT. NO. 440 - SORTING & COUNTING

| | Cards | Man Hours | Prod. Labor | Mach. Cost | Cler. Over. | Super. Over. | Adm. over. | Total Cost |
|---|---|---|---|---|---|---|---|---|
| Week Nov.10,1934 | 687.5 | .232 | .15 | .07 | .09 | .02 | .10 | .43 |
| " Nov.17,1934 | 1849.0 | .189 | .10 | .04 | .06 | .01 | .06 | .27 |
| " Nov.24,1934 | 3538.3 | .17 | .09 | .04 | .04 | .01 | .05 | .23 |
| " Dec. 1,1934 | 1544.9 | .24 | .16 | .07 | .09 | .01 | .09 | .42 |
| " Dec. 8,1934 | 2728.2 | 1.69 | .09 | .04 | .05 | .01 | .04 | .23 |
| " Dec.15,1934 | 3338.2 | .10 | .05 | .02 | .03 | .01 | .03 | .14 |

JOB. No. 009

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Week Nov.17,1934 | 61.0 | 1.98 | $1.06 | $.44 | $ .59 | $ .13 | $.60 | $2.82 |
| " Nov.24,1934 | 103.5 | 2.02 | 1.08 | .43 | .54 | .12 | .58 | 2.75 |
| " Dec. 1,1934 | 29.0 | 3.20 | 2.12 | .87 | 1.15 | .23 | 1.22 | 5.99 |
| " Dec. 8,1934 | 41.7 | 2.50 | 1.35 | .54 | .73 | .17 | .70 | 3.49 |

JOB. NO. 010

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Week Nov.17,1934 | 117.3 | 1.238 | $.66 | $.28 | $.36 | $.08 | $.37 | $1.75 |
| " Nov.24,1934 | 249.7 | .79 | .42 | .17 | .21 | .05 | .23 | 1.08 |
| " Dec. 1,1934 | 110.5 | 1.10 | .74 | .30 | .40 | .09 | .43 | 1.96 |
| " Dec. 8,1934 | 193.2 | .71 | .37 | .15 | .20 | .05 | .20 | .97 |
| " Dec.15,1934 | 123.6 | .76 | .40 | .16 | .25 | .05 | .22 | 1.08 |

Job. No.

008 - Sorting Tally G-2 Duration of Unemployment

009 - Sorting Tally G-3 Date of Losing Temporary Job

010 - Sorting Tally G-4 Date of Re-employment

ANALYSIS OF COSTS

SOCIAL SURVEYS

Comparative Unit Costs by Job Numbers

Unemployment Survey of Penna. in 1934

The tables below illustrate the variation of unit costs in the Tally & Inspection Department and the Tabulating Department on the same Job Numbers from week to week. Sheets Col. 1, are given in hundreds. All other columns are computed per hundred sheets.

DEPT. NO. 450 - TALLY & INSPECTION

JOB NO.004

| | Sheets | Man Hours | Prod. Labor | Mach. Cost | Cler. Over. | Super. Over. | Adm. Over | Total Cost |
|---|---|---|---|---|---|---|---|---|
| Week Nov.10,1934 | 51.67 | 3.41 | $2.27 | $.26 | $.07 | $.58 | $1.44 | $4.62 |
| " Nov.24,1934 | 28.91 | 6.66 | 3.56 | .45 | .13 | 1.00 | 1.94 | 7.08 |
| " Dec. 1,1934 | 70.40 | 6.40 | 4.30 | .55 | .17 | 1.23 | 2.46 | 8.71 |
| " Dec.15,1934 | 113.7 | 7.01 | 3.71 | .48 | .14 | 1.08 | 2.00 | 7.41 |

JOB NO. 006

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Week Nov.10,1934 | 67.22 | 3.52 | $2.36 | $.27 | $ .07 | $ .60 | $1.50 | $4.80 |
| " Nov.17,1934 | 85.30 | 4.56 | 2.43 | .28 | .08 | .64 | 1.37 | 4.80 |
| " Nov.24,1934 | 51.17 | 5.04 | 2.69 | .34 | .10 | .75 | 1.46 | 5.34 |

JOB NO. 007

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| WEEK NOV.10,1934 | 12.37 | 4.55 | $ 3.01 | $.35 | $.09 | $ .77 | $1.95 | $6.15 |
| " Nov.17,1934 | 23.50 | 4.91 | 2.62 | .30 | .09 | .68 | 1.48 | 5.17 |
| " Nov.24,1934 | 9.94 | 5.30 | 2.84 | .36 | .10 | .81 | 1.55 | 5.66 |

Job. No.

004 - Tally - E - 1 Wages by Sex

006 - Sorting Tally E II Date of Losing Last Regular Job

007 - Sorting Tally F-2 for Unemployed Persons (4- -2) SS-1B Reason for not seeking Employment.

## SOCIAL SURVEYS

Comparative Cost Units by Job Numbers

Unemployment Survey of Penna. in 1934.

The tables below illustrate the variation of unit costs in the Tabulating Department on the same Job Numbers from week to week. Sheets Col. 1, are given in hundreds. All other columns are computed per hundred sheets.

DEPT. NO. 460 - TABULATING

JOB NO.201

| | Sheets | Man Hours | Prod. Labor | Mach. Cost | Cler. Over. | Super. Over. | Adm. Over | Total Cost |
|---|---|---|---|---|---|---|---|---|
| Week Nov.17,1934 | 1.03 | 148.0 | $78.70 | $6.98 | .00 | $28.51 | $44.50 | $158.69 |
| " Nov.24,1934 | .91 | 127.5 | 68.00 | 6.30 | .00 | 25.63 | 37.00 | 136.93 |
| " Dec.15,1934 | 3.06 | 187.5 | 100.10 | 6.84 | .00 | 27.80 | 53.95 | 188.69 |

JOB NO. 202

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Week Nov.17,1934 | 23.57 | 17.7 | $10.24 | $.92 | .00 | $3.71 | $5.84 | $20.71 |
| " Nov.24,1934 | 5.28 | 62.9 | 33.60 | 3.12 | .00 | 12.65 | 18.23 | 67.60 |
| " Dec. 1,1934 | 9.66 | 32.1 | 21.41 | 1.94 | .00 | 7.90 | 12.28 | 43.53 |
| " Dec. 8,1934 | 7.56 | 49.1 | 26.19 | 2.32 | .00 | 9.46 | 13.56 | 51.53 |
| " Dec.15,1934 | .69 | 146.9 | 78.50 | 5.35 | .00 | 21.91 | 42.20 | 147.96 |

JOB NO. 203

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Week Nov.24,1934 | 2.27 | 40.0 | $21.40 | $1.98 | .00 | $8.09 | $11.60 | $43.07 |
| Week Dec. 8,1934 | 3.40 | 45.6 | 24.27 | 2.17 | .00 | 8.81 | 12.62 | 47.87 |
| Week Dec.15,1934 | 3.63 | 34.7 | 18.50 | 1.26 | .00 | 5.14 | 10.00 | 34.90 |

Job. No.

201 - Table No. 1 - Employment Status by Nativity and Sex

202 - Table No. 2 - Ages - By Sex and Nativity

203 - Table No. 3 - Wages per week by sex and age of workers

## SOCIAL SURVEYS

## COMPARATIVE UNIT COSTS BY JOB NUMBERS

## UNEMPLOYMENT SURVEY OF PENNSYLVANIA IN 1934

Week Ending November 17, 1934 - 37.5 hr. week - 3 shifts - Labor rate $.5333 per hour.

DEPT. NO. 440 SORTING & COUNTING

| Job No. | 005 | 006 | 007 | 008 | 009 | 010 | 011 | 012 | 013 |
|---|---|---|---|---|---|---|---|---|---|
| Cards in 1000's | 62.3 | 482.0 | 108.3 | 1849.0 | 61.0 | 117.3 | 1029.1 | 356.6 | 376.1 |
| Man Hours/1000 Cards | .338 | .604 | 1.010 | .189 | 1.982 | 1.258 | .120 | .511 | .441 |
| Prod. Labor /" | $.18 | $.32 | $.54 | $.10 | $1.06 | $.66 | $.06 | $.27 | $.24 |
| Machine Cost/" | .08 | .13 | .22 | .04 | .44 | .28 | .03 | .11 | .10 |
| Cler. Over. /" | .10 | .18 | .30 | .06 | .59 | .36 | .03 | .15 | .13 |
| Super. Over./" | .02 | .04 | .07 | .01 | .13 | .08 | .01 | .03 | .03 |
| Adm. Over. /" | .10 | .18 | .30 | .06 | .60 | .37 | .04 | .16 | .13 |
| Total Cost / | .48 | .85 | 1.43 | .27 | 2.82 | 1.75 | .17 | .72 | .63 |

DEPT. NO. 450 TALLY AND INSPECTION

| Job No. | 005 | 006 | 007 |
|---|---|---|---|
| Sheets in 100's | 44.6 | 85.3 | 23.5 |
| Man Hours/ 100 Sheets | 5.00 | 4.56 | 4.91 |
| Prod. Labor / " | $2.66 | 2.43 | 2.62 |
| Machine Cost / " | .31 | .28 | .30 |
| Cler. Over. / " | .09 | .08 | .09 |
| Super. Over. / " | .69 | .64 | .68 |
| Adm. Over. / " | 1.50 | 1.37 | 1.48 |
| Total Cost | 5.25 | 4.80 | 5.17 |

DEPT. NO. 460 TABULATING

| Job No. | 201 | 202 |
|---|---|---|
| Sheets in 100's | 1.03 | 23.57 |
| Man Hours/ 100 Sheets | 148. | 17.7 |
| Prod. Labor / " | $78.70 | $10.24 |
| Machine Cost / " | 6.98 | .92 |
| Cler. Over. / " | .00 | .00 |
| Super. Over. / " | 28.51 | 3.71 |
| Adm. Over. / " | 44.50 | 5.84 |
| Total Cost / " | 158.69 | 20.71 |

Job No.

005 - Tally - F - 1 Wages by Nativity
006 - Sorting Tally E LI Date of Losing Last Regular Job
007 - Sorting Tally F-2 for Unemployed Persons(4-2) SS-IB Reason for not (seeking Employment
008 - Sorting Tally G-2 Duration of Unemployment
009 - Sorting Tally G-3 Date of Losing Temporary Job
010 - Sorting Tally G-4 Date of Re-employment
011 - Sorting for Industry
012 - Tally M -Employment Status of Workers Reporting a Temporary Industry
013 - Tally N -Employment Status of Workers not reporting a Temporary In- (dustry
201 - Table No. 1 - Employment Status by Nativity and Sex
202 - Table No. 2 - Ages - By Sex and Nativity

## SOCIAL SURVEYS

## COMPARATIVE UNIT COSTS BY JOB NUMBERS

## UNEMPLOYMENT SURVEY OF PENNSYLVANIA IN 1934

WK. Ending Nov 24, 1934 - 37.5 Hr. Wk - 3 Shifts - Labor Rate $.5333 Per Hr

DEPT. NO. 440 SORTING & COUNTING

| Job No. | 006 | 007 | 008 | 009 | 010 |
|---|---|---|---|---|---|
| Cards in 1000's | 254.8 | 36.4 | 3538.3 | 103.5 | 249.7 |
| Man Hr. / 1000 Cards | .53 | 1.87 | .17 | 2.02 | .79 |
| Prod. Labor / 1000 Cards | $ .29 | $1.00 | $ .09 | $ 1.08 | $ .42 |
| Machine Cost / " | .11 | .40 | .04 | .43 | .17 |
| Cler. Over. / " | .14 | .50 | .04 | .54 | .21 |
| Super. Over. / " | .03 | .11 | .01 | .12 | .05 |
| Adm. Over. / " | .15 | .54 | .05 | .58 | .23 |
| Total Cost / " | $ .72 | $2.55 | $ .23 | 2.75 | $ 1.08 |

DEPT. NO. 450 TALLY AND INSPECTION

| Job No. | 003 | 004 | 006 | 007 |
|---|---|---|---|---|
| Sheets in 100's | 45.52 | 28.91 | 51.17 | 9.94 |
| Man Hr. / 100 Sheets | 4.53 | 6.66 | 5.04 | 5.3 |
| Prod. Labor / 100 Sheets | $2.41 | $3.56 | $2.69 | 2.84 |
| Machine Cost / " | $ .31 | $ .45 | $ .34 | .36 |
| Cler. Over. / " | $ .09 | $ .13 | $ .10 | .10 |
| Super. Over./ " | $ .67 | $1.00 | $ .75 | .81 |
| Adm. Cost / " | $1.32 | $1.94 | $1.46 | 1.55 |
| Total Cost / " | $4.80 | $7.08 | 5.34 | 5.66 |

DEPT. NO. 460 TABULATING

| Job No. | 201 | 202 | 203 |
|---|---|---|---|
| Sheets in 100's | .91 | 5.28 | 2.27 |
| Man Hr. / 100 Sheets | 127.5 | 62.9 | 40.0 |
| Prod. Labor / 100 Sheets | $ 68.00 | 33.60 | 21.40 |
| Machine Cost / " | 6.30 | 3.12 | 1.98 |
| Cler. Over. / " | 0.00 | 0.00 | 0.00 |
| Super. Over. / " | 25.63 | 12.65 | 8.09 |
| Adm. Over. / " | 37.00 | 18.23 | 11.60 |
| Total Cost / " | $136.93 | 67.60 | 43.07 |

Job No.

003 - Tally "D" Age, Sex and Nativity
004 - Tally-E-1 Wages by Sex
006 - Sorting Tally E II Date of Losing Last Regular Job
007 - Sorting Tally F-2 for Unemployed Persons (4- -2) SS-1B Reason For Not Seeking Employment
008 - Sorting Tally G-2 Duration of Unemployment
009 - Sorting Tally G-3 Date of Losing Temporary Job
010 - Sorting Tally G-4 Date of Re-employment
201 - Table No. 1 - Employment Status by Nativity and Sex
202 - Table No. 2 - Ages - By Sex and Nativity
203 - Table No. 3 - Wages per week by sex and age of workers

## COMPARATIVE COSTS OF SIX MASTER TABLES

## FOR MONTGOMERY, LACKAWANNA, AND LUZERNE COUNTIES

The determination of costs for a political subdivision such as a county under any job number is illustrated in the three tables which follow for Montgomery, Lackawanna, and Luzerne Counties. The same tabulation of data was made for each county so the results are directly comparable in that respect. The physical quantities which effect the results are as follows:

| County | Population | 1st Class Townships Boroughs and Cities | Total Cost |
|---|---|---|---|
| Montgomery | 265,804 | 38 | $804.68 |
| Lackawanna | 310,397 | 22 | 690.63 |
| Luzerne | 444,409 | 39 | 1265.51 |

The data compiled in the master table of Job No. 201 applies to the whole county; the master tables of Jobs Nos. 202,203,204, and 206, the data applies only to first class townships, boroughs and cities; and the master table of Job No. 207 is a recapitulation for the county. It is evident therefore that the number of first class townships,boroughs and cities is as much a factor in the total cost as the population of the counties. The data for Lackawanna County worked up more economically than that of the other two counties where sorting of the original records and special conditions in some townships slowed up the work. Lackawanna and Luzerne Counties represent a special situation also in that separate cards were punched for all individuals while in other counties,cards were punched only for employable persons and a few other classes. For Lackawanna County this increased the number of cards 124%; for Luzerne County it increased the number of cards 135%. In making up the tables for Job Numbers 201 and 202, this special condition probably added 20% to the cost.

The cost figures for these three counties illustrate how difficult it

is to compare the cost of tabulating this information for apparently similar conditions unless the physical factors are known and the actual conditions and special problems in the work room where the data is compiled are taken into account.

A comparison of these total cost figures shows that Job No.202 - Ages by Sex and Nativity cost in each case nearly 50% of the total and from the number of operations represented by the number of sheets handled represented a large proportion of the work.The reasons for this are first,that the data in Job No. 202 is presented in considerable detail and, second, that for every unemployment status there is a table.On the other hand,the data in Job No. 201 although made for every employment status contains only a limited number of subclasses and the remaining tables of the set are made for only certain classes of persons.

With costs data available on the compilation of such tables,the relative value of the results can be judged on the basis of actual cost and in case the cost is higher than the results justify in the first tables made up, a revision of the table with the elimination of less essential items can be carried out to keep costs in proportion to results.

## TABULATION OF ENUMERATED POPULATION FOR FIRST CLASS TOWNSHIPS, BOROUGHS AND CITIES FOR THREE COUNTIES

### TABULATING DEPARTMENT

COST OF SIX MASTER TABLES FOR MONTGOMERY COUNTY

| Job No. | Number Sheets | Man Hours | Prod. Labor | Machine Cost | Sup. O.H. | Adm. O.H. | Total Cost |
|---|---|---|---|---|---|---|---|
| 201 | 127 | 158.5 | $84.53 | $ 7.52 | $30.69 | $47.69 | $170.43 |
| 202 | 1397 | 339.7 | 201.34 | 17.95 | 72.90 | 113.74 | 405.93 |
| 203 | 351 | 136.3 | 74.13 | 6.78 | 27.61 | 40.84 | 149.36 |
| 204 | 199 | 35.0 | 18.67 | 1.72 | 7.05 | 10.14 | 37.58 |
| 206 | 109 | 31.5 | 16.80 | 1.57 | 6.35 | 9.13 | 33.85 |
| 207 | 2 | 7.0 | 3.73 | .35 | 1.42 | 2.03 | 7.53 |
| Total | | 708.0 | $399.20 | 35.89 | 146.02 | $223.57 | $804.68 |

COST OF SIX MASTER TABLES FOR LACKAWANNA COUNTY

| Job No. | Number Sheets | Man Hours | Prod. Labor | Machine Cost | Sup. O.H. | Adm. O.H. | Total Cost |
|---|---|---|---|---|---|---|---|
| 201 | 82 | 119.0 | $63.46 | $ 5.34 | $21.72 | $33.26 | $123.78 |
| 202 | 756 | 371.0 | 197.87 | 17.47 | 71.64 | 102.86 | 389.94 |
| 203 | 186 | 110.0 | 58.67 | 5.05 | 20.48 | 30.68 | 114.88 |
| 204 | 229 | 28.5 | 15.21 | 1.34 | 5.51 | 7.91 | 29.97 |
| 206 | 240 | 24.5 | 13.06 | 1.16 | 4.74 | 6.80 | 25.76 |
| 207 | 4 | 6.0 | 3.20 | .29 | 1.15 | 1.66 | 6.30 |
| Total | | 659.0 | 351.47 | $30.75 | $125.24 | $183.17 | $690.63 |

COST OF SIX MASTER TABLES FOR LUZERNE COUNTY

| Job No. | Number Sheets | Man Hours | Prod. Labor | Machine Cost | Sup. O.H. | Adm. O. H. | Total Cost |
|---|---|---|---|---|---|---|---|
| 201 | 107 | 181.5 | $98.53 | 8.34 | $34.00 | $53.69 | $194.56 |
| 202 | 1494 | 642.5 | 384.06 | 34.20 | 143.22 | 215.01 | 777.49 |
| 203 | 503 | 149.5 | 79.73 | 6.14 | 24.96 | 42.34 | 153.17 |
| 204 | 357 | 59.5 | 36.98 | 3.29 | 13.30 | 20.70 | 74.27 |
| 206 | 269 | 42.5 | 26.72 | 2.41 | 9.81 | 15.00 | 53.94 |
| 207 | 8 | 11.5 | 6.13 | .54 | 2.22 | 3.19 | 12.08 |
| Total | | 1087.0 | $632.15 | 55.92 | $227.51 | $349.93 | $1265.51 |

| Job No. | Table No. | Table Title |
|---|---|---|
| 201 | Table I | Employment Status by Nativity and Sex |
| 202 | Table II | Ages - By Sex and Nativity |
| 203 | Table III | Wages per Week By Sex and Age of Workers |
| 204 | Table IV | Wages per Week by Nativity |
| 206 | Table VI | Reasons Reported by Unemployed Who Are Not Seeking Work |
| 207 | Table VII | Date Losing Last Regular Job (Tally E-2) |

NUMBER IDENTIFICATION OF DIVISIONS AND DEPARTMENTS

100 - State Supervision
200 - Administrative
300 - Field
400 - Classification and Analysis of Data
- 10 - Coding - Unit - Schedule
- 20 - Key Punch - Unit - Card
- 30 - Card Inspection - Unit - Card
- 40 - Sorting and Counting - Unit - Tally
  1. Sorting Machine Operation
  2. Printing Machine Operation
- 50 - Tally and Inspection - Unit - Tally
- 60 - Tabulating - Unit - Table
- 70 - Publishing - Unit - Bulletin
  1. Typing
  2. Stenciling
  3. Proofreading
  4. Mimeographing
  5. Multilithing
  6. Assembling
  7. Mailing

500 - Research
- 10 - Planning and Development Work

600 - Archives

GENERAL SURVEY NUMBERS

These numbers will designate work which requires field data or other basic data for compilation. They will require the punching of cards for data classification and summary, all of which operations will be given a Job Number under the Survey Number. This series of numbers will run from 00 to 50 inclusive.

00 - Unemployment Survey of Pennsylvania in 1934
01 - Real Estate Survey
  Allegheny County in 1934.
  Philadelphia County in 1934
02 - Personnel Analysis for C. E. R. B. in 1934
03 - Personnel Analysis for Social Surveys in 1934
04 - Analysis of University of Pennsylvania Duplicate Cards

SERVICE PROJECT NUMBERS

These numbers will designate work done by the Social Survey organization outside the field covered by General Survey Numbers. Such work will not require the punching of cards but will be in the nature of service to other agencies with data or personnel. This series of numbers will run from 51 to 99 inclusive.

51 - Co-ordination Procedure between C. E. R. B. and Employment Offices. (National Reemployment Service and State Employment Offices) Started July 1, 1934.
52 - Work Division - Planning Unit on Projects. Started September 7, 1934.
53 - Work for Governor's Planning Board under Dr. Fleisher. Started October 8, 1934.
54 - Budget - Started May 18, 1934.
55 - Labor and Industry - Started May 25, 1934.

SORTING AND COUNTING DEPARTMENT

TALLY AND INSPECTION DEPARTMENT

00 - UNEMPLOYMENT SURVEY IN PENNSYLVANIA IN 1934

JOB NO.

STUDY OF POPULATION AND EMPLOYABLES BY CIVIL SUBDIVISION

001 - Sorting Tally for Population SS-1B by District
002 - Sorting Tally C
003 - Tally "D" Age, Sex and Nativity
004 - Tally - E - 1 Wages by Sex
005 - Tally - F - 1 Wages by Nativity
006 - Sorting Tally E II Date of Losing Last Regular Job
007 - Sorting Tally F-2 for Unemployed Persons (4- -2) SS-1B Reason for not seeking employment.
008 - Sorting Tally - G-2 Duration of Unemployment
009 - Sorting Tally G-3 Date of Losing Temporary Job
010 - Sorting Tally G-4 Date of Re-employment

SORTING AND COUNTING DEPARTMENT

TALLY AND INSPECTION DEPARTMENT

00 - UNEMPLOYMENT SURVEY OF PENNSYLVANIA IN 1934

JOB NO.

STUDY OF EMPLOYABLES BY INDUSTRY

011 - Sorting for Industry
012 - Tally M-Employment Status for Workers Reporting a Temporary Industry
013 - Tally N-Employment Status of Workers Not Reporting a Tamporary Industry
014 - Tally O-Sex-Occupation-Classes of Workers of Each Industry and Employment Status
015 - Tally P1- Wages of Employed Workers by Occupation
016 - Tally P2- Date Lost Last Regular Job in Industry by Occupation
017 - Tally Q - Age and Nativity by Sex and Occupation

12-17-34 018 - Tally R - Employment Status of Workers Reporting a temporary occupation
12-17-34 019 - Tally S - Employment Status of Workers Reporting a temporary occupation.

SORTING AND COUNTING DEPARTMENT

TALLY AND INSPECTION DEPARTMENT

00- UNEMPLOYMENT SURVEY OF PENNSYLVANIA IN 1934

JOB NO.

GENERAL

030 - Nativity - Sex - Age Groups

## RESEARCH DEPARTMENT - PUBLISHING DEPARTMENT

### SPECIAL REPORTS

| Survey No. | JOB NO. 601 to 799 |
|---|---|
| 00 | 601 - Inspection of Industrial Coding on Unemployment Survey. This includes:<br>(a) Comparative Code Analysis<br>(b) Reclassification for Industrial Code and Correction of Coding Errors. Charge to Survey No. 00 |
| XX | 602 - Proposed Survey of Industry in Pennsylvania |
| XX | 603 - Proposed Survey of Company Towns in Pennsylvania |
| XX | 604 - Proposed Survey of Relief Employables |
| 00 | 605 - Special Report for Bryn Mawr College, covering Montgomery County and data for Conshohocken and West Conshohocken |
| 00 | 606 - Report for Miss Bauer - Number of families and number of additional families in certain selected communities. |
| 00 | 607 - Inspection of occupational coding on Unemployment Survey |
| XX | 608 - Incomes, character of employment, etc. for Federal Emergency Administration of Public Works by specified Philadelphia census tract. |
| XX | 609 - Lists of Industries employing 10 or more persons in Phila. Co. (for Bureau of Labor Statistics, Washington, D.C.) |
| XX | 610 - Lists of Industries employing 5 or more persons in the cities of Johnstown, Lancaster and Scranton. (For Bureau of Labor Statistics, Washington D.C.) |
| 00 | 611 - Design & Build Cabinet for Master Tables (Archives Div.) |
| 00 | 612 - Design Work of Tallies |
| 052 | 613 - Occupational Classification of Relief Employables for Planning Unit |

### BULLETINS

00 UNEMPLOYMENT SURVEY OF PENNSYLVANIA IN 1934

JOB NO. 801 to 899

801 - Unemployment by Counties - Preliminary Results
802 - Summary Report on Employment and Unemployment and Population.
803 - Sex - Age - Nativity Reports
804 - Report on Wages of Workers
805 - Report on The Negro Worker
806 - Duration of Unemployment
807 - State Summary Report on Unemployment Survey

## PUBLISHING DEPARTMENT

### GENERAL

JOB NO. 900 to 919

900 - Planning and Development Work for Social Surveys

### DIGEST

JOB NO. 920 to 950

920 - Digest No. 8 for November 2.
921 - Digest No. 9 for November 16.
922 - Digest No. 10 for December 3.
923 - Digest No. 11 for December 17.

900 - General Overhead Work for Social Surveys
901 - Listing Cards
902 - Tabulating Cards
903 - Schedule Sequence for listing cards
904 - Sorting and Assembling Tally Sheets for recapping-
Tally and Inspection Department

TABULATING DEPARTMENT

00 - UNEMPLOYMENT SURVEY OF PENNSYLVANIA IN 1934

JOB NO. BULLETIN TABLES

101 - Table No. 2 - Employment Status by Nativity and Sex
102 - Table No. 3 - Employables by Nativity
103 - Table No. 4 - Employment Status
104 - Table No. 5 - Employment Status of Males
105 - Table No. 6 - Employment Status of Females

JOB NO. MASTER TABLES

201 - Table No. 1 - Employment Status by Nativity and Sex
202 - Table No. 2 - Ages - by Sex and Nativity
203 - Table No. 3 - Wages per week by Sex and age or workers
204 - Table No. 4 - Wages per week by Nativity
205 - Table No. 5 - Duration of Unemployment in Six Month Intervals
206 - Table No. 6 - Reasons Reported by Unemployed who are not seeking Work
207 - Table No. 7 - Date Losing Last Regular Job (Tally E2)

TABULATING DEPARTMENT

00 - UNEMPLOYED SURVEY OF PENNSYLVANIA IN 1934

JOB NO. SUMMARY TABLES

301 - Table No. 1 - Total Employables in each Civil Subdivision
302 - Table No. 2 - Full Time and Part Time Workers by Sex in each Civil Subdivision
303 - Table No. 3 - Unemployed Workers (Seeking Work) by Sex in each Civil Subdivision
304 - Table No. 4A- Full Time Workers by Nativity in each Civil Subdivision
305 - Table No. 4B- Part Time Workers by Nativity in each Civil Subdivision
306 - Table No. 5A- Unemployed previously employed workers (Seeking Work by Nativity in each Civil Subdivision
307 - Table No. 5B- Unemployed not previously employed workers (Seeking Work)
308 - Table No. 6 - Employables in ____County by Sex, Nativity and Civil Subdivision
309 - Table No. 7 - Summary Table - Employables, Employed, Unemployed Seeking Work
320 - Industry by Employment Status, Sex and Occupation. (Tally O)
321 - Industry by Employment Status, Sex, Nativity, Age and Occupation. Tally Q)

Effective - November 19, 1934

# CHAPTER VIII

# ANALYSIS OF EXPENDITURES

## ACCOUNTING PROCEDURE

Social Surveys Project was set up and approved for the conducting of Social Surveys throughout Pennsylvania and analyzing the data accumulated. In addition to the records kept by the State C.W.A., it was found necessary to install a system of accounting, within the Project, so as to record the amounts disbursed for Wages and Salaries in each County together with various costs including Printing, Equipment Rentals, Office Space, Supplies, Telephone and Telegraph etc. Together with this detailed record was kept showing costs of the Project Administrative Overhead and the detailed Labor and Material Costs of the Various departments of the Tabulating Division.

Wages and Salaries

Payrolls were prepared on the forms required under the C.W.A and S.E.R.B. procedures. The forms for the Tabulating Division payrolls were prepared in our Harrisburg office and checks distributed at the plant. The breakdown of these Payrolls reflected the amounts disbursed for Administrative overhead,including salaries of the Executive Officers, Secretaries, Typists, Timekeepers, Supply Clerks, etc. The breakdown of payroll disbursements in the Tabulating Division reflects the amounts paid to Supervisors,Key-Punch Operators, Coding Clerks, Card Inspectors, Sorting Machine Operators, Tabulating Clerks, File Clerks, Messengers, etc.

Payrolls for workers in Counties were prepared and disbursed by the various County Comptrollers. The County Project Supervisors were required to send to our Harrisburg Office a weekly summary sheet of Payroll Expenditures classified so as to show the amounts paid to County, Assistant County and District Supervisors,Stenographers, Typists, Timekeepers, Draftsmen and Enumerators. From these weekly reports the amounts were posted,by Counties showing the classifications as described above. When the Field Work was

completed the totals were checked with the records of the various County Comptrollers, and later with the State Accounting Division in Harrisburg.

Materials And Other Costs

The Tabulating Division used various types of Tabulating equipment rented from the International Business Machines Corporation and included electrically operated Horizontal Sorters, Non-Printing Counting Sorters, Key Punch Machines, Electric Duplicating Key-Punchers, and a-5-Bank Electric Accounting Machine. In addition to the above, other equipment such as Typewriters, Adding Machines, Comptometers, etc. was used in the Tabulating Department. A book record of machine rentals was maintained and also a card system showing rental dates and payments. A book and card record was also kept for Office Equipment Purchased. Supplies for Office use and for the Tabulating Division were purchased and placed in a Supply Room under the direction of a supply clerk. The rental of equipment and the purchase of supplies were effected by means of a Purchase Requisition and Purchase Order. These items were recorded when the Purchase Order was received, and classified showing whether the items were rented or Purchased, together with a breakdown showing equipment classifications. Purchase Orders for the purchase of materials were classified as to the kind and type of material.

Supplies to the field men and our County Offices were shipped from our Supply Room. A detailed account of supplies so shipped was maintained and the costs of the materials were charged against the particular county or counties.

Items such as Office Rentals, Telephone and Telegraph, Drayage etc. were also charged to the various Counties. Detailed accounts were maintained in connection with printing, traveling expenses, etc.

The annual report contains a schedule setting forth the amounts disbursed for Wages and Salaries in each County supported by a detailed sched-

ule showing the amounts paid to the various classes of workers. The Tabulating Division report sets forth certain schedules showing labor costs of the various departments. Materials costs, etc. are reported by counties supported by schedules showing the breakdown of the various items.

The amounts expended for Wages, Salaries and Materials were compared with the accounts of the State Accounting Division.

Expenditures For Which Purchase Orders Were Issued

As shown in the opening section of the report, this project was statewide. This necessitated the opening of offices in each of the State's sixty-seven counties. In the following schedules of this section, it will be noted that there are two county totals: the first, covering only sums expended from funds allocated to this project; whereas, the items listed under "Printing Fund" were paid from a special fund provided for State Emergency Relief Board printing and consequently not charged to the project. The final total column shows the amount of purchase orders issued for each county.

Costs of operation in the counties varied considerably because of office space, equipment, etc. In some places it was possible to obtain space and equipment without any expenditure whatsoever; in other counties, small sums were spent covering the drayage of loaned equipment. For example, expenditures in Butler County totaled $131.29. This covered supplies, rental of equipment, light, heat, and maintenance. In Cameron County, on the other hand, all of the above items, with the exception of supplies, were secured without any cost to the organization, the total cost being $2.77.

In all cases, space was provided free but where there were charges for light, heat, and maintenance, competitive bids were taken on three or more suitable places and those quarters occupied where the rates were lowest.

There were two tabulating divisions, one in Philadelphia and another in Harrisburg, the latter, in addition, housing the administrative offices of the Survey. A variety of equipment and supplies were necessary to maintain these offices. Tabulating was done by means of equipment rented from the International Business Machines Corporation, and a voting machine loaned by the Automatic Voting Machine Corporation of Jamestown, New York.

SOCIAL SURVEYS

SCHEDULE OF DISBURSEMENTS

12/15/33 to 12/15/34

| | Wages and Salaries | Materials Other Costs etc. | Total |
|---|---|---|---|
| (Civil Works Administration | 738,580.41 | 53,726.86 | 792,307.27 |
| FUNDS(Works Division - SERB | 1,143,708.19 | 89,635.53 | 1,233,343.72 |
| (Works Relief - SERB | 90,089.16 | 8,911.72 | 99,000.88 |
| (F.E.R.A. - Special Printing Fund | | 12,343.06 | 12,343.06 |
| | 1,972,377.76 | 164,617.17 | 2,136,994.93 |

WAGES & SALARIES

SOCIAL SURVEYS

| | | | | |
|---|---|---|---|---|
| Area Supervisors | | 35,775.01 | | |
| County Offices | | 1,498,894.09 | | |
| Harrisburg | | | | |
| Administrative | 51,998.59 | | | |
| Tabulating Division | 341,795.95 | 393,794.54 | 1,928,463.64 | |
| Budget Secretaries Project | | 5,227.75 | | |
| Poor Board Survey | | 17,759.14 | | |
| Placement Agency Co-Ordination | | 17,991.42 | | |
| Labor & Industry | | 1,029.17 | | |
| Public Works Advisors | | 1,906.64 | 43,914.12 | 1,972,377.76 |

MATERIALS, OTHER COSTS ETC

| | | |
|---|---|---|
| County Offices | 71,701.89 | |
| Harrisburg | 92,915.28 | 164,617.17 |
| Total Expenditures | | 2,136,994.93 |

SOCIAL SURVEYS

WAGES & SALARIES - COUNTY OFFICES

| | C&A | WD | WR | TOTAL |
|---|---|---|---|---|
| Adams | 324.75 | 3,102.77 | | 3,427.52 |
| Allegheny | 229,696.15 | 45,011.26 | 8,021.35 | 282,728.76 |
| Armstrong | 1,710.06 | 7,035.89 | | 8,745.95 |
| Beaver | 2,316.18 | 10,232.39 | | 12,548.57 |
| Bedford | 694.57 | 2,282.71 | | 2,977.28 |
| Berks | 2,094.93 | 17,004.44 | | 19,099.37 |
| Blair | 944.93 | 12,391.64 | | 13,336.57 |
| Bradford | 556.02 | 3,220.18 | | 3,776.20 |
| Bucks | 1,193.64 | 5,878.43 | | 7,072.07 |
| Butler | 379.01 | 6,869.48 | | 7,248.49 |
| Cambria | 909.69 | 14,870.13 | | 15,779.82 |
| Cameron | 191.25 | 902.62 | | 1,093.87 |
| Carbon | 1,208.00 | 6,878.54 | | 8,086.54 |
| Centre | 352.04 | 3,314.57 | | 3,666.61 |
| Chester | 1,169.94 | 7,803.06 | | 8,973.00 |
| Clarion | 755.84 | 3,179.00 | | 3,934.84 |
| Clearfield | 506.30 | 6,673.75 | | 7,180.05 |
| Clinton | 561.34 | 3,279.30 | | 3,840.64 |
| Columbia | 549.33 | 4,714.97 | | 5,264.30 |
| Crawford | 532.06 | 3,249.30 | | 3,781.36 |
| Cumberland | 609.50 | 6,185.23 | | 6,794.73 |
| Dauphin | 2,518.67 | 14,769.54 | | 17,288.21 |
| Delaware | 2,616.21 | 18,175.79 | | 20,792.00 |
| Elk | 587.22 | 3,451.10 | | 4,038.32 |
| Erie | 2,640.96 | 13,434.91 | | 16,075.87 |
| Fayette | 322.91 | 16,397.44 | | 16,720.35 |
| Forest | 94.92 | 889.21 | | 984.13 |
| Franklin | 829.85 | 4,549.00 | | 5,378.85 |
| Fulton | 193.09 | 824.76 | | 1,017.85 |
| Greene | 313.84 | 2,312.00 | | 2,625.84 |
| Huntingdon | 428.51 | 4,151.08 | | 4,579.59 |
| Indiana | 920.47 | 7,489.20 | | 8,409.67 |
| Jefferson | 262.80 | 4,914.77 | | 5,177.57 |
| Juniata | 509.96 | 2,440.20 | | 2,950.15 |
| Lackawanna | 622.81 | 30,985.50 | | 31,608.31 |
| Lancaster | 1,193.64 | 8,830.76 | | 10,024.40 |
| Lawrence | 1,154.09 | 8,390.23 | | 9,554.32 |
| Lebanon | 1,044.19 | 4,970.91 | | 6,015.10 |
| Lehigh | 2,848.94 | 15,263.46 | | 18,112.40 |
| Luzerne | 1,333.94 | 30,807.42 | | 32,141.36 |
| Lycoming | 1,727.00 | 8,243.06 | | 9,970.06 |
| McKean | 631.07 | 4,042.35 | | 4,673.42 |
| Mercer | 887.47 | 5,680.24 | | 6,567.71 |
| Mifflin | 770.05 | 3,815.67 | | 4,585.72 |
| Monroe | 470.04 | 2,825.20 | | 3,295.24 |
| Montgomery | 2,101.17 | 20,023.73 | | 22,124.90 |
| Montour | 156.92 | 1,521.49 | | 1,678.41 |
| Northampton | 2,914.41 | 14,545.91 | | 17,460.32 |
| Northumberland | 689.86 | 8,648.36 | | 9,338.22 |
| Perry | 427.47 | 2,065.65 | | 2,493.12 |
| Philadelphia | 346,599.23 | 313,592.57 | 8,175.60 | 668,367.40 |
| Pike | 171.75 | 1,304.10 | | 1,475.85 |
| Potter | 283.00 | 1,721.32 | | 2,004.32 |
| Schuylkill | 973.51 | 16,509.13 | | 17,482.64 |
| Snyder | 219.01 | 1,429.19 | | 1,648.20 |
| Somerset | 785.47 | 4,043.42 | | 4,828.89 |
| Sullivan | 238.80 | 1,364.83 | | 1,603.63 |
| Susquehanna | 407.72 | 2,802.63 | | 3,210.35 |
| Tioga | 685.71 | 3,133.93 | | 3,819.64 |
| Union | 238.00 | 1,659.99 | | 1,897.99 |
| Venango | 733.08 | 6,061.05 | | 6,794.13 |
| Warren | 587.81 | 2,302.40 | | 2,890.21 |
| Washington | 1,651.67 | 15,150.69 | | 16,802.36 |
| Wayne | 345.65 | 2,845.00 | | 3,190.65 |
| Westmoreland | 742.32 | 20,732.74 | | 21,475.06 |
| Wyoming | 422.74 | 1,528.86 | | 1,951.60 |
| York | 657.51 | 13,755.70 | | 14,413.21 |
| | 634,220.99 | 848,476.15 | 16,196.95 | 1,498,894.09 |

SOCIAL SURVEYS
PAY ROLL ANALYSIS - BY COUNTIES
12/15/33 to 12/15/34

| | County Adm. | Dist. Supv. | Stenog & Typists | Time Keepers | Draftsmen | Enumerators | TOTAL |
|---|---|---|---|---|---|---|---|
| Adams | 241.92 | 623.20 | 111.00 | 152.20 | 181.33 | 2,117.87 | 3,427.52 |
| Armstrong | 807.50 | 1,374.00 | 111.00 | 118.80 | 248.00 | 6,086.65 | 8,745.95 |
| Beaver | 923.33 | 2,276.00 | 91.50 | 167.40 | 389.35 | 8,700.99 | 12,548.57 |
| Bedford | 504.08 | 513.60 | 50.76 | 86.40 | 184.00 | 1,638.44 | 2,977.28 |
| Berks | 1,262.30 | 3,196.80 | 108.00 | 324.00 | 266.32 | 13,941.95 | 19,099.37 |
| Blair | 821.67 | 2,048.66 | 119.50 | 150.60 | 423.34 | 9,772.80 | 13,336.57 |
| Bradford | 552.72 | 326.40 | 147.00 | 74.40 | 141.34 | 2,534.34 | 3,776.20 |
| Bucks | 595.15 | 1,093.10 | 89.50 | 224.40 | 68.00 | 5,001.92 | 7,072.07 |
| Butler | 632.20 | 1,079.00 | 81.00 | 97.20 | 235.34 | 5,123.75 | 7,248.49 |
| Cambria | 896.67 | 2,264.80 | 113.50 | 177.00 | 403.35 | 11,924.50 | 15,779.82 |
| Cameron | 175.00 | 201.60 | 63.00 | 69.60 | | 584.67 | 1,093.87 |
| Carbon | 670.93 | 1,097.60 | 63.00 | 232.20 | 168.00 | 5,854.81 | 8,086.54 |
| Centre | 681.37 | 624.00 | 90.00 | 87.60 | 197.33 | 1,986.31 | 3,666.61 |
| Chester | 814.90 | 1,449.60 | 115.00 | 133.20 | 332.00 | 6,128.30 | 8,973.00 |
| Clarion | 509.17 | 528.00 | 98.00 | 88.80 | 154.67 | 2,556.20 | 3,934.84 |
| Clearfield | 830.07 | 1,267.20 | 77.00 | 124.80 | 291.34 | 4,589.64 | 7,180.05 |
| Clinton | 372.76 | 556.80 | 18.75 | 112.50 | 148.33 | 2,631.50 | 3,840.64 |
| Columbia | 598.84 | 688.40 | 33.60 | 73.20 | 107.99 | 3,762.27 | 5,264.30 |
| Crawford | 447.72 | 463.80 | 77.50 | 93.00 | 239.34 | 2,460.00 | 3,781.36 |
| Cumberland | 803.60 | 965.60 | 111.00 | 101.40 | 291.33 | 4,521.80 | 6,794.73 |
| Dauphin | 715.59 | 2,231.41 | 104.33 | 385.00 | 232.81 | 13,619.07 | 17,288.21 |
| Delaware | 1,246.81 | 3,201.60 | 30.00 | 277.20 | 268.00 | 15,768.39 | 20,792.00 |
| Elk | 283.00 | 537.60 | 74.00 | 88.80 | 176.00 | 2,878.92 | 4,038.32 |
| Erie | 807.13 | 2,409.16 | 109.00 | 291.20 | 596.00 | 11,863.38 | 16,075.87 |
| Fayette | 1,037.50 | 2,748.96 | 100.00 | 256.80 | 263.35 | 12,313.74 | 16,720.35 |
| Forest | 159.82 | 180.80 | 56.50 | 67.60 | | 519.41 | 984.13 |
| Franklin | 729.68 | 838.40 | 111.00 | 118.80 | 196.67 | 3,384.30 | 5,378.85 |
| Fulton | 166.25 | 201.60 | 58.00 | 86.40 | 76.66 | 428.94 | 1,017.85 |
| Greene | 476.67 | 409.60 | 92.00 | 110.40 | 90.67 | 1,446.50 | 2,625.84 |
| Huntingdon | 566.67 | 643.00 | 135.00 | 38.40 | 163.22 | 3,033.30 | 4,579.59 |
| Indiana | 774.67 | 1,222.40 | 105.00 | 111.60 | 244.00 | 5,952.00 | 8,409.67 |
| Jefferson | 680.50 | 704.00 | 76.00 | 86.40 | 102.67 | 3,528.00 | 5,177.57 |
| Juniata | 524.24 | 296.40 | 89.50 | 89.40 | 94.32 | 1,856.30 | 2,950.16 |
| Lackawanna | 552.70 | 5,095.60 | 45.90 | 126.00 | 548.61 | 25,239.50 | 31,608.31 |
| Lancaster | 901.08 | 1,923.40 | 95.00 | 148.80 | 280.00 | 6,676.12 | 10,024.40 |
| Lawrence | 475.83 | 1,264.60 | 62.75 | 103.80 | 192.31 | 7,455.03 | 9,554.32 |
| Lebanon | 705.84 | 788.80 | 93.00 | 111.60 | 100.00 | 4,215.86 | 6,015.10 |
| Lehigh | 730.82 | 2,775.34 | 87.00 | 219.40 | 294.45 | 14,005.39 | 18,112.40 |
| Luzerne | 2,065.95 | 4,400.51 | 94.00 | 561.00 | 589.28 | 24,430.62 | 32,141.36 |
| Lycoming | 1,250.21 | 1,613.66 | 70.50 | 99.00 | 268.64 | 6,668.05 | 9,970.06 |
| McKean | 459.37 | 868.80 | 176.00 | 15.60 | 167.99 | 2,985.66 | 4,673.42 |
| Mercer | 893.47 | 1,063.60 | 84.00 | 127.60 | 161.33 | 4,237.71 | 6,567.71 |
| Mifflin | 511.87 | 467.20 | 96.00 | 105.00 | 194.02 | 3,211.63 | 4,585.72 |
| Monroe | 363.33 | 355.20 | 87.00 | 84.00 | 170.66 | 2,235.05 | 3,295.24 |
| Montgomery | 889.18 | 3,894.40 | 116.00 | 367.80 | 386.68 | 16,470.84 | 22,124.90 |
| Montour | 224.41 | 235.20 | 75.00 | 70.80 | 84.00 | 989.00 | 1,678.41 |
| Northampton | 635.72 | 2,284.50 | 90.50 | 237.60 | 559.32 | 13,652.68 | 17,460.32 |
| Northumberland | 659.17 | 1,434.44 | 35.80 | 98.40 | 274.00 | 6,836.41 | 9,338.22 |
| Perry | 226.48 | 313.60 | 92.00 | 113.40 | 99.02 | 1,648.62 | 2,493.12 |
| Pike | 192.50 | 177.60 | 67.50 | 81.00 | 48.00 | 909.25 | 1,475.85 |
| Potter | 357.50 | 188.80 | 59.00 | 75.60 | 68.00 | 1,255.42 | 2,004.32 |
| Schuylkill | 1,005.52 | 3,112.29 | 93.50 | 351.00 | 355.32 | 12,565.01 | 17,482.64 |
| Snyder | 390.47 | 252.80 | 10.00 | | 78.13 | 916.80 | 1,648.20 |
| Somerset | 535.30 | 548.80 | 58.00 | 90.00 | 240.00 | 3,356.79 | 4,828.89 |
| Sullivan | 355.00 | 175.70 | 61.00 | 75.60 | 84.00 | 852.33 | 1,603.63 |
| Susquehanna | 643.12 | 350.40 | 69.00 | 72.00 | 128.00 | 1,947.83 | 3,210.35 |
| Tioga | 596.50 | 535.20 | 74.25 | 116.86 | 179.00 | 2,317.83 | 3,819.64 |
| Union | 352.49 | 282.00 | | 24.00 | 84.00 | 1,155.50 | 1,897.99 |
| Venango | 777.12 | 1,017.60 | 109.00 | 96.00 | 190.66 | 4,603.75 | 6,794.13 |
| Warren | 510.61 | 273.00 | 93.26 | | 134.16 | 1,909.18 | 2,890.21 |
| Washington | 837.25 | 3,079.96 | 123.50 | 297.70 | 326.66 | 12,137.29 | 16,802.36 |
| Wayne | 368.32 | 520.00 | 70.00 | 81.00 | 86.67 | 2,064.66 | 3,190.65 |
| Westmoreland | 1,065.83 | 4,103.20 | 96.50 | 229.80 | 352.65 | 15,627.08 | 21,475.06 |
| Wyoming | 536.17 | 230.40 | 41.00 | 78.00 | 90.67 | 975.36 | 1,951.60 |
| York | 1,160.00 | 2,090.40 | 96.50 | 205.80 | 386.01 | 10,474.50 | 14,413.21 |
| | 42,539.56 | 83,980.09 | 5,432.40 | 9,160.86 | 14,147.31 | 392,537.71 | 547,797.93 |
| Allegheny | | | | | | | 282,728.76 |
| Philadelphia | | | | | | | 668,367.40 |
| | | | | | | GRAND TOTAL | 1,498,894.09 |

## Summary - Wages & Salaries

### Harrisburg - Administrative

| | C.W.A. | W.D. | W.R. | TOTAL |
|---|---|---|---|---|
| Asst. Director | 923.05 | 1795.78 | 761.53 | 3480.36 |
| Comptroller | 465.61 | 1232.31 | 507.65 | 2205.57 |
| Chief-Tabulating Section | 523.03 | 676.87 | | 1199.90 |
| Adm. Assts. and Clerks | 280.30 | 2757.18 | 623.57 | 3661.05 |
| Editor and Assts. | | 719.55 | 623.27 | 1342.82 |
| Librarian | | 424.82 | 25.00 | 449.82 |
| Pay Roll Clerk | 327.60 | 738.18 | 330.00 | 1395.78 |
| Planning Assts. | | 473.33 | 323.05 | 796.38 |
| Archivists and Assts. | | 1586.67 | 70.00 | 1656.67 |
| Stat. and Res. Clerks | | 365.70 | 173.36 | 539.06 |
| Chief Accountant | | | 282.66 | 282.66 |
| Research Workers | 24.04 | 631.10 | 410.28 | 1065.42 |
| Statisticians | 632.62 | 374.85 | 30.00 | 1037.47 |
| Secretaries | 456.00 | 2426.20 | 912.00 | 3794.20 |
| Stenographers and Typists | 1076.52 | 3506.74 | 1235.82 | 5819.08 |
| Bookkeeper | 171.50 | 586.73 | 231.00 | 989.23 |
| Clerks-Office | 76.64 | 553.31 | 451.40 | 1081.35 |
| Clerks-Filing | | 191.20 | 40.00 | 231.20 |
| Clerks-Graph | | 281.31 | 18.00 | 299.31 |
| Purchasing Agent | 9.17 | 761.51 | 330.00 | 1100.68 |
| Receiving Clerks | 526.70 | 1513.06 | 231.00 | 2270.76 |
| Maintenance Engineer | 200.00 | 622.55 | 192.00 | 1014.55 |
| Receptionists | | | 170.13 | 170.13 |
| Time Keepers | 430.50 | 1251.64 | 725.00 | 2407.14 |
| Watchman-Janitor | 375.00 | 1048.76 | 72.00 | 1495.76 |
| Messengers | 487.20 | 1723.76 | 300.00 | 2510.96 |
| Mimeograph Operators | | 340.57 | 36.00 | 376.57 |
| Elevator Operators | | 178.91 | 446.73 | 625.64 |
| Carpenters | 2926.80 | 2534.40 | 203.50 | 5664.70 |
| Electricians | 188.40 | 896.59 | | 1084.99 |
| Painters | 420.65 | 120.71 | | 541.36 |
| Plasterers | | 48.76 | | 48.76 |
| Laborers | 13.50 | 1134.51 | 211.25 | 1359.26 |
| | 10534.83 | 31497.56 | 9966.20 | 51998.59 |

## WAGES AND SALARIES

### TABULATING DIVISION - HARRISBURG

| | SUPERVISORY | | | DIRECT LABOR | | |
|---|---|---|---|---|---|---|
| | CWA | WD | WR | CWA | WD | WR |
| General Supervisory | 799.99 | 1,390.03 | | | | |
| Coding Department | 1,374.66 | 2,987.66 | | 30,770.29 | 64,421.27 | |
| Key Punching Department | 1,173.50 | 1,837.00 | | 30,660.81 | 33,607.32 | 1,009.04 |
| Sorting & Counting Department | 327.70 | 4,256.39 | 2,538.11 | 7,447.69 | 49,337.93 | 19,574.20 |
| Tally and Inspection | 677.30 | 1,155.44 | 1,713.05 | 9,436.82 | 6.702.00 | 6,820.57 |
| Mimeograph Department | | | | 68.70 | 93.00 | |
| Publishing Department | | 18.00 | 300.00 | | 757.48 | 2,090.56 |
| Archives | | 200.00 | 702.66 | | 4,817.38 | 5,678.67 |
| Tabulating | | 1,203.63 | 1,402.66 | | 4,727.20 | 3,970.91 |
| Planning | | 40.00 | 466.92 | | 599.08 | 5,696.62 |
| Card Inspection | | 1,003.08 | | | 24,816.38 | |
| Research | | | | | 184.23 | 1,572.74 |
| Voting Machine | | | | | 1,367.28 | |
| | 4,353.15 | 14,091.23 | 7,123.40 | 78,384.31 | 191,430.55 | 46,413.31 |

### RECAPITULATION
12/15/33 to 12/15/34

| | Supervisory | Direct Labor | TOTAL |
|---|---|---|---|
| General Supervisors | 2,190.02 | | 2,190.02 |
| Coding Department | 4,362.32 | 95,191.56 | 99,553.88 |
| Key Punching Department | 3,010.50 | 65,277.17 | 68,287.67 |
| Sorting & Counting Department | 7,122.20 | 76,359.82 | 83,482.02 |
| Tally and Inspection | 3,545.79 | 22,959.39 | 26,505.18 |
| Mimeograph Department | | 161.70 | 161.70 |
| Publishing Department | 318.00 | 2,848.04 | 3,166.04 |
| Archives | 902.66 | 10,496.05 | 11,398.71 |
| Tabulating | 2,606.29 | 8,698.11 | 11,304.40 |
| Planning | 506.92 | 6,295.70 | 6.802.62 |
| Card Inspection | 1,003.08 | 24,816.38 | 25,819.46 |
| Research | | 1,756.97 | 1,756.97 |
| Voting Machines Department | | 1,367.28 | 1,367.28 |
| | 25,567.78 | 316,228.17 | 341,795.95 |

SOCIAL SURVEYS

SUMMARY OF

MATERIALS AND OTHER COSTS

| | CWA | WD | WR | TOTAL |
|---|---|---|---|---|
| * Office Equipment Purchased | 1,438.60 | 936.09 | 166.24 | 2,540.93 |
| Office Equipment Rentals | 776.24 | 3,685.25 | 1,187.94 | 5,649.43 |
| Rentals I.B.M. Equipment | 26,084.25 | 42,909.16 | 5,908.90 | 74,902.31 |
| Supplies from I.B.M. | 5,439.68 | 8,335.28 | 57.80 | 13,832.76 |
| Office and Other Supplies | 3,475.07 | 8,608.19 | 1,403.90 | 13,487.16 |
| Light, Heat & Maintenance (County Offices) | 2,218.07 | 4,593.79 | | 6,811.86 |
| Maps, Blue Prints, etc. | 743.12 | 104.34 | | 847.46 |
| Telephone & Telegraph | 2,037.26 | 4,134.30 | | 6,171.56 |
| Printing, Mimeographing, etc. | 2,363.40 | 400.63 | | 2,764.03 |
| Rent (Doehne Building) | 3,000.00 | 3,250.00 | | 6,250.00 |
| Light, Heat & Power (Doehne Bldg) | 1,473.07 | 832.98 | | 2,306.05 |
| Electrical Supplies | 1,133.13 | 276.35 | | 1,409.48 |
| Lumber | 1,293.08 | 1,239.60 | | 2,532.68 |
| Hardware, Paint, etc. | 177.94 | 92.69 | | 270.63 |
| Drayage & Express | 619.53 | 936.66 | | 1,556.19 |
| Traveling Expense | 1,454.42 | 3,092.15 | | 4,546.57 |
| Partial Payment on Purchased Equipment | | 300.07 | | 300.07 |
| Postage | | 1,408.00 | | 1,408.00 |
| Insurance | | 4,500.00 | | 4,500.00 |
| Rentals Publishing Department | | | 186.94 | 186.94 |
| | 53,726.86 | 89,635.53 | 8,911.72 | 152,274.11 |
| Printing - "Special Fund" | | | | 12,343.06 |
| | | | | 164,617.17 |

* See Schedule

SOCIAL SURVEYS

MATERIALS & OTHER COSTS

| | CWA | WD | WR | TOTALS |
|---|---|---|---|---|
| Adams | .23 | 92.98 | | 93.21 |
| Allegheny | 2,797.11 | 3,548.12 | 860.30 | 7,205.53 |
| Armstrong | 8.15 | 174.37 | | 182.52 |
| Beaver | 74.69 | 59.03 | | 133.72 |
| Bedford | 43.86 | 50.20 | | 94.06 |
| Berks | 19.64 | 28.26 | | 47.90 |
| Blair | 11.68 | 73.57 | | 85.25 |
| Bradford | 54.67 | 109.34 | | 164.01 |
| Bucks | 4.55 | 83.48 | | 88.03 |
| Butler | 118.89 | 37.96 | | 156.85 |
| Cambria | 33.07 | 41.55 | | 74.62 |
| Cameron | 1.15 | 28.37 | | 29.52 |
| Carbon | 9.66 | 6.57 | | 16.23 |
| Centre | | 31.24 | | 31.24 |
| Chester | 67.45 | 238.97 | | 306.42 |
| Clarion | 22.97 | 55.48 | | 78.45 |
| Clearfield | 22.91 | 132.22 | | 155.13 |
| Clinton | 11.66 | 17.82 | | 29.48 |
| Columbia | | 22.25 | | 22.25 |
| Crawford | 30.08 | 39.38 | | 69.46 |
| Cumberland | | 7.83 | | 7.83 |
| Dauphin | 34.80 | 150.88 | | 185.68 |
| Delaware | 24.47 | 171.51 | | 195.98 |
| Elk | 50.18 | 37.41 | | 87.59 |
| Erie | 55.47 | 256.71 | | 312.18 |
| Fayette | 7.38 | 30.15 | | 37.53 |
| Forest | 14.10 | 2.77 | | 16.87 |
| Franklin | 46.85 | 153.25 | | 200.10 |
| Fulton | 11.34 | 26.07 | | 37.41 |
| Greene | | 34.55 | | 34.55 |
| Huntingdon | 5.88 | 3.43 | | 9.31 |
| Indiana | | 59.29 | | 59.29 |
| Jefferson | 16.59 | 58.32 | | 74.91 |
| Juniata | 25.79 | 25.79 | | 25.79 |
| Lackawanna | 10.94 | 122.75 | | 133.69 |
| Lancaster | 36.93 | 84.10 | | 121.03 |
| Lawrence | 18.35 | 134.24 | | 152.59 |
| Lebanon | 8.44 | 28.06 | | 36.50 |
| Lehigh | 36.63 | 83.07 | | 119.70 |
| Luzerne | 71.24 | 329.94 | | 401.18 |
| Lycoming | 73.41 | 71.39 | | 144.80 |
| McKean | 52.26 | 56.31 | | 108.57 |
| Mercer | 5.75 | 17.40 | | 23.15 |
| Mifflin | | 22.98 | | 22.98 |
| Monroe | 13.07 | 11.55 | | 24.62 |
| Montgomery | 68.81 | 420.16 | | 420.16 |
| Montour | 6.39 | 11.51 | | 17.90 |
| Northampton | 36.55 | 70.34 | | 106.89 |
| Northumberland | 27.44 | 86.24 | | 113.68 |
| Perry | | 30.59 | | 30.59 |
| Philadelphia | 18,393.20 | 39,874.90 | | 58,268.10 |
| Pike | .60 | 23.68 | | 24.28 |
| Potter | 5.37 | 6.45 | | 11.82 |
| Schuylkill | 16.82 | 35.11 | | 51.93 |
| Snyder | 25.00 | 38.10 | | 63.10 |
| Somerset | 5.60 | 16.44 | | 22.04 |
| Sullivan | 7.75 | 38.60 | | 46.35 |
| Susquehanna | 5.00 | 54.18 | | 59.18 |
| Tioga | 38.34 | 111.31 | | 149.65 |
| Union | | 13.31 | | 13.31 |
| Venango | 18.74 | 81.77 | | 100.51 |
| Warren | 15.70 | 5.43 | | 21.13 |
| Washington | 22.57 | 196.59 | | 219.16 |
| Wayne | | 31.80 | | 31.80 |
| Westmoreland | 35.63 | 99.01 | | 134.64 |
| Wyoming | 8.62 | 33.22 | | 41.84 |
| York | 9.99 | 106.13 | | 116.12 |
| COUNTY TOTALS | 22,674.62 | 48,166.97 | 860.30 | 71,701.89 |
| HARRISBURG | 31,052.24 | 41,468.56 | 8,051.42 | 80,572.22 |
| | 53,726.86 | 89,635.53 | 8,911.72 | 152,274.11 |

SOCIAL SURVEYS

MATERIALS, OTHER COSTS ETC. (By Counties)

12/15/33 to 12/15/34

| | OFFICE SUPPLIES | TELEPHONE TELEGRAPH | EQUIPMENT RENTALS | LIGHT - HEAT MAINTENANCE | OTHER COSTS | TOTALS |
|---|---|---|---|---|---|---|
| Adams | 16.49 | 54.90 | 18.13 | 3.69 | | 93.21 |
| Armstrong | 3.71 | 133.20 | 7.18 | 38.43 | | 182.52 |
| Beaver | 104.66 | 25.73 | | 3.33 | | 133.72 |
| Bedford | 6.80 | 48.07 | 1.33 | 37.86 | | 94.06 |
| Berks | 18.96 | 28.94 | | | | 47.90 |
| Blair | 16.71 | 68.54 | | | | 85.25 |
| Bradford | 12.58 | 66.65 | 14.61 | 70.17 | | 164.01 |
| Bucks | 3.93 | 83.40 | .70 | | | 88.03 |
| Butler | 84.31 | 25.56 | 5.25 | 41.73 | | 156.85 |
| Cambria | 9.35 | 65.27 | | | | 74.62 |
| Cameron | 2.77 | 26.75 | | | | 29.52 |
| Carbon | 3.65 | 9.43 | 3.15 | | | 16.23 |
| Centre | 4.57 | | | 26.67 | | 31.24 |
| Chester | 22.49 | 216.83 | 9.10 | 50.00 | 8.00 | 306.42 |
| Clarion | 3.53 | 27.82 | 8.07 | 39.03 | | 78.45 |
| Clearfield | 23.33 | 66.86 | 24.11 | 40.83 | | 155.13 |
| Clinton | 3.27 | 26.21 | | | | 29.48 |
| Columbia | 3.60 | 18.65 | | | | 22.25 |
| Crawford | 8.18 | 31.01 | 5.27 | 25.00 | | 69.46 |
| Cumberland | 7.83 | | | | | 7.83 |
| Dauphin | 44.93 | 105.95 | 9.80 | 25.00 | | 185.68 |
| Delaware | 7.45 | 170.93 | 7.60 | | 10.00 | 195.98 |
| Elk | 3.21 | 74.38 | | 10.00 | | 87.59 |
| Erie | 29.71 | 188.03 | 9.17 | 76.67 | 8.60 | 312.18 |
| Fayette | 5.25 | 32.28 | | | | 37.53 |
| Forest | 2.77 | 14.10 | | | | 16.87 |
| Franklin | 6.20 | 91.23 | 4.00 | 72.67 | 26.00 | 200.10 |
| Fulton | 2.77 | 10.47 | 4.67 | 19.50 | | 37.41 |
| Greene | 2.94 | 26.95 | 4.66 | | | 34.55 |
| Huntingdon | 3.43 | 5.88 | | | | 9.31 |
| Indiana | 4.38 | 54.91 | | | | 59.29 |
| Jefferson | 7.89 | 59.52 | | 7.50 | | 74.91 |
| Juniata | 2.94 | 22.85 | | | | 25.79 |
| Lackawanna | 10.61 | 123.08 | | | | 133.69 |
| Lancaster | 10.72 | 74.32 | 25.99 | | 10.00 | 121.03 |
| Lawrence | 7.53 | 98.24 | | 46.82 | | 152.59 |
| Lebanon | 3.60 | 27.60 | 5.30 | | | 36.50 |
| Lehigh | 12.02 | 96.21 | 11.47 | | | 119.70 |
| Luzerne | 57.76 | 274.22 | | 32.00 | 37.20 | 401.18 |
| Lycoming | 32.66 | 90.12 | 22.02 | | | 144.80 |
| McKean | 4.28 | 55.79 | 1.00 | 47.50 | | 108.57 |
| Mercer | 4.35 | 18.80 | | | | 23.15 |
| Mifflin | 3.21 | 19.77 | | | | 22.98 |
| Monroe | 6.23 | 15.39 | 3.00 | | | 24.62 |
| Montgomery | 46.86 | 320.13 | 28.17 | 25.00 | | 420.16 |
| Montour | 2.94 | 14.96 | | | | 17.90 |
| Northampton | 4.47 | 78.53 | | 23.89 | | 106.89 |
| Northumberland | 25.54 | 55.63 | 25.50 | 7.01 | | 113.68 |
| Perry | 2.88 | 18.19 | | 9.52 | | 30.59 |
| Pike | 2.88 | 20.80 | .60 | | | 24.28 |
| Potter | 6.45 | 5.37 | | | | 11.82 |
| Schuylkill | 25.63 | 24.80 | 1.50 | | | 51.93 |
| Snyder | 3.32 | 9.78 | | 50.00 | | 63.10 |
| Somerset | 3.54 | 18.50 | | | | 22.04 |
| Sullivan | 2.94 | 18.41 | | 25.00 | | 46.35 |
| Susquehanna | 3.16 | 31.02 | | 25.00 | | 59.18 |
| Tioga | 7.60 | 90.05 | 2.00 | 50.00 | | 149.65 |
| Union | 2.94 | 10.37 | | | | 13.31 |
| Venango | 8.30 | 42.45 | 49.76 | | | 100.51 |
| Warren | 3.10 | 18.03 | | | | 21.13 |
| Washington | 13.04 | 161.69 | | 33.93 | 10.50 | 219.16 |
| Wayne | 3.10 | 27.60 | | 1.10 | | 31.80 |
| Westmoreland | 11.33 | 123.31 | | | | 134.64 |
| Wyoming | 2.83 | 23.96 | 1.80 | 13.25 | | 41.84 |
| York | 7.51 | 47.34 | 7.27 | 54.00 | | 116.12 |
| | 827.92 | 3,935.76 | 322.18 | 1,032.10 | 110.30 | 6,228.26 |
| Allegheny * | | | | | | 7,205.53 |
| Philadelphia * | | | | | | 58,268.10 |
| Harrisburg * | | | | | | 80,572.22 |
| | | | | | | 152,274.11 |

* SEE SCHEDULE

ALLEGHENY COUNTY

MATERIALS AND OTHER COSTS

| | CWA | WD | WR | TOTAL |
|---|---|---|---|---|
| Office Supplies | 505.63 | 109.90 | | 615.53 |
| Telephone & Telegraph | 351.34 | 307.24 | | 658.58 |
| Light, Heat & Maintenance | 521.35 | 155.20 | | 676.55 |
| Printing & Mimeographing | 877.25 | | | 877.25 |
| Maps & Blue Prints, etc. | 237.13 | | | 237.13 |
| Drayage | 247.61 | 11.44 | | 259.05 |
| Lumber | | 136.49 | | 136.49 |
| Paint & Hardware | | 8.58 | | 8.58 |
| Western Union | | 20.76 | | 20.76 |
| RENTAL | | | | |
| Office Equipment | 56.80 | 66.00 | | 122.80 |
| Water Coolers | | 24.00 | 8.00 | 32.00 |
| Typewriters | | 141.80 | 94.00 | 235.80 |
| Adding Machines | | 171.59 | 15.00 | 186.59 |
| I.B.M. Equipment | | 2,221.74 | 650.66 | 2,872.40 |
| Comptometers | | | 74.64 | 74.64 |
| Line-A-Times | | | 18.00 | 18.00 |
| Supplies - | | | | |
| Purchased from I. B. M. | | 173.38 | | 173.38 |
| | 2,797.11 | 3,548.12 | 860.30 | 7,205.53 |

PHILADELPHIA COUNTY

MATERIALS AND OTHER COSTS

| | CWA | WD | TOTAL |
|---|---|---|---|
| Office Supplies | 624.64 | | 624.64 |
| Telephone & Telegraph | 723.88 | 602.74 | 1,326.62 |
| Rental - Office Equipment | 323.08 | | 323.08 |
| Light, Heat & Maintenance | 1,410.14 | 3,693.07 | 5,103.21 |
| Printing & Mimeographing | 1,368.85 | 400.63 | 1,769.48 |
| Maps & Blue Prints | 340.77 | | 340.77 |
| Rental - I.B.M. Equipment | 12,010.00 | | 12,010.00 |
| Supplies - I.B.M. | 820.92 | | 820.92 |
| Electrical Supplies | 416.86 | | 416.86 |
| Lumber | 209.87 | 330.24 | 540.11 |
| Hardware, Paint, etc. | 21.94 | 11.56 | 33.50 |
| Drayage | 122.25 | 135.07 | 257.32 |
| Office Supplies (Shipped) | | 349.80 | 349.80 |
| " " (Purchased) | | 1,945.89 | 1,945.89 |
| First Aid Supplies | | 7.02 | 7.02 |

| RENTAL | CWA | WD | TOTAL |
|---|---|---|---|
| Adding Machines | | 79.50 | 79.50 |
| Office Equipment | | 284.13 | 284.13 |
| Typewriters | | 374.10 | 374.10 |
| Mimeograph Machines | | 57.50 | 57.50 |
| Folding Chairs | | 290.25 | 290.25 |
| Motor Generator Set | | 159.80 | 159.80 |
| I.B.M. Corp. Equipment | | 23,460.00 | 23,460.00 |

| SUPPLIES | CWA | WD | TOTAL |
|---|---|---|---|
| Purchased I.B.M. Corp. | | 7,693.60 | 7,693.60 |
| | 18,393.20 | 39,874.90 | 58,268.10 |

HARRISBURG OFFICE

MATERIALS AND OTHER COSTS
12/15/33 to 12/15/34

| | CWA | WD | WR | | |
|---|---|---|---|---|---|
| RENTAL OFFICE EQUIPMENT | | | | | |
| Adding Machines | 40.24 | 889.68 | 87.00 | 1,016.92 | |
| Desks, Chairs & Filing Cabinets | 32.60 | 121.18 | 55.75 | 209.53 | |
| Motor Generator Set | 110.00 | 130.00 | 60.00 | 350.00 | |
| Mimeograph Machine | 5.00 | 111.00 | 30.00 | 146.00 | |
| Typewriters | 52.90 | 317.22 | 374.45 | 744.57 | |
| Folding Chairs | 63.33 | 98.51 | 11.26 | 173.10 | |
| Safe | | 58.00 | 30.00 | 88.00 | |
| Addressograph | | 31.11 | | 31.11 | |
| Calculators | | | 311.84 | 311.84 | |
| Line-A-Times | | | 13.00 | 13.00 | 3,089.07 |
| RENTAL - I.B.M. EQUIPMENT | | | | | |
| Electric Key Punchers | 5,757.40 | 3,234.89 | 288.24 | 9,280.53 | |
| Horizontal Sorters | 6,889.52 | 9,143.30 | 2,800.00 | 18,837.82 | |
| Card Counting Sorters | 1,320.00 | 3,300.00 | 850.00 | 5,470.00 | |
| Duplicators | 107.32 | | | 107.32 | |
| Printers | | 1,544.23 | | 1,544.23 | |
| Non-Printing Sorters | | | 1,320.00 | 1,320.00 | 36,559.90 |
| SUPPLIES PURCHASED - I.B.M. CORP. | | | | | |
| Electrotypes | 125.00 | | | 125.00 | |
| Skip Bars | 250.00 | 88.20 | | 338.20 | |
| Hollerith Cards | 4,243.76 | 302.40 | 52.00 | 4,598.16 | |
| Ribbons, etc. | | 77.70 | 5.80 | 83.50 | 5,144.86 |
| RENTAL - PUBLISHING DEPT. | | | | | |
| Multilith | | | 171.94 | 171.94 | |
| Mimeograph Machine | | | 15.00 | 15.00 | 186.94 |
| SUPPLIES & OTHER COSTS | | | | | |
| Office Supplies | 2,153.60 | 4,626.35 | 610.24 | 7,390.19 | |
| Printing & Mimeographing | 117.30 | | | 117.30 | |
| Maps, Blue Prints, etc. | 165.22 | 25.84 | | 191.06 | |
| General Supplies | | 227.06 | | 227.06 | |
| Janitors Supplies | | 17.22 | 2.25 | 19.47 | |
| Misc. Supplies - Tab. Dv. | | 688.12 | 39.12 | 727.24 | |
| First Aid Supplies | | 36.01 | 1.64 | 37.65 | |
| Supplies - Publishing Dpt. | | | 232.72 | 232.72 | |
| Telephone & Telegraph | 47.81 | 182.53 | | 230.34 | |
| Rent - Doehne Bldg | 3,000.00 | 3,250.00 | | 6,250.00 | |
| Postage | | 1,408.00 | 500.00 | 1,908.00 | |
| Insurance | | 4,500.00 | | 4,500.00 | |
| Drayage & Express | 249.67 | 721.95 | | 971.62 | |
| Light, Heat & Maintenance | 1,473.07 | 832.98 | | 2,306.05 | |
| Traveling Expenses | 1,454.42 | 3,092.15 | | 4,546.57 | |
| Electrical Supplies | 716.27 | 276.35 | | 992.62 | |
| Lumber | 1,083.21 | 772.87 | | 1,856.08 | |
| Hardware, Paint, etc. | 156.00 | 72.55 | 3.16 | 231.71 | |
| Partial Payment on Equip. Purchased | | 300.07 | | 300.07 | |
| Misc. Publications | | | 14.77 | 14.77 | 33,050.52 |
| Office Equipment Purchased | 1,438.60 | 936.09 | 166.24 | | 2,540.93 |
| Printing (Special Fund) | | | | | 12,343.06 |
| | | | GRAND TOTAL | | 92,915.28 |

TOTAL EXPENDITURES IN COUNTIES FOR WHICH PURCHASE ORDERS WERE ISSUED

EXCLUSIVE OF ALLEGHENY, PHILADELPHIA AND HARRISBURG FOR WHICH SEPARATE SCHEDULES ARE SHOWN

| | SOCIAL SURVEY COSTS | | | | | PRINTING FUND | | |
|---|---|---|---|---|---|---|---|---|
| County | Supplies | Equipment Rental | Light, Heat & Mairt. | Other Costs | Total | Form SS-1B | Form SS-3 | Total |
| Adams | 16.49 | 18.13 | 3.69 | | 38.31 | 17.34 | | 55.65 |
| Armstrong | 3.71 | 7.18 | 38.43 | | 49.32 | 46.10 | | 95.42 |
| Beaver | 104.66 | | 3.33 | | 107.99 | 82.25 | 3.04 | 193.28 |
| Bedford | 6.80 | 1.33 | 37.86 | | 45.99 | 13.46 | 18.39 | 77.84 |
| Berks | 18.96 | | | | 18.96 | 157.15 | 12.94 | 189.05 |
| Blair | 16.71 | | | | 16.71 | 97.33 | | 114.04 |
| Bradford | 12.58 | 14.61 | 70.17 | | 97.36 | 25.14 | | 122.50 |
| Bucks | 3.93 | .70 | | | 4.63 | 51.86 | | 56.49 |
| Butler | 84.31 | 5.25 | 41.73 | | 131.29 | 39.38 | | 170.67 |
| Cambria | 9.35 | | | | 9.35 | 132.34 | 9.84 | 151.53 |
| Cameron | 2.77 | | | | 2.77 | 3.99 | .65 | 7.41 |
| Carbon | 3.65 | 3.17 | | | 6.82 | 43.03 | 1.69 | 51.54 |
| Centre | 4.57 | | 26.67 | | 31.24 | 25.43 | | 56.67 |
| Chester | 22.49 | 9.10 | 50.00 | 8.00 | 89.59 | 75.42 | 2.40 | 167.41 |
| Clarion | 3.53 | 8.07 | 39.03 | | 50.63 | 19.22 | .58 | 70.43 |
| Clearfield | 23.33 | 24.11 | 40.83 | | 88.27 | 48.27 | | 136.54 |
| Clinton | 3.27 | | | | 3.27 | 21.03 | | 24.30 |
| Columbia | 3.60 | | | | 3.60 | 29.45 | | 33.05 |
| Crawford | 8.18 | 5.27 | 25.00 | | 38.45 | 31.01 | | 69.46 |
| Cumberland | 7.83 | | | | 7.83 | 45.36 | | 53.19 |
| Dauphin | 44.93 | 9.80 | 25.00 | | 79.73 | 128.09 | 14.20 | 222.02 |
| Delaware | 7.45 | 7.60 | | 10.00 | 25.05 | 209.70 | | 234.75 |
| Elk | 3.21 | | 10.00 | | 13.21 | 20.01 | 3.18 | 36.40 |
| Erie | 29.71 | 9.17 | 76.67 | 8.60 | 124.15 | 116.36 | 17.68 | 258.19 |
| Fayette | 5.25 | | | | 5.25 | 114.60 | 5.30 | 125.15 |
| Forest | 2.77 | | | | 2.77 | 3.80 | | 6.57 |
| Franklin | 6.20 | 4.00 | 72.67 | 26.00 | 108.87 | 33.76 | | 142.63 |
| Fulton | 2.77 | 4.67 | 19.50 | | 26.94 | 2.51 | | 29.45 |
| Greene | 2.94 | 4.66 | | | 7.60 | 19.82 | | 27.42 |
| Huntingdon | 3.43 | | | | 3.43 | 21.93 | | 25.36 |
| Indiana | 4.58 | | | | 4.58 | 42.21 | | 46.79 |
| Jefferson | 7.89 | | 7.50 | | 15.39 | 33.49 | .66 | 49.54 |
| Juniata | 2.94 | | | | 2.94 | 8.21 | | 11.15 |
| Lackawanna | 10.61 | | | | 10.61 | 197.50 | 32.18 | 240.29 |
| Lancaster | 10.72 | 25.99 | | 10.00 | 46.71 | 72.81 | | 119.52 |
| Lawrence | 7.53 | | 46.82 | | 54.35 | 57.68 | 8.06 | 120.09 |
| Lebanon | 3.60 | 5.30 | | | 8.90 | 45.06 | 4.41 | 58.37 |
| Lehigh | 12.02 | 11.47 | | | 23.49 | 125.15 | 19.08 | 167.72 |
| Luzerne | 57.76 | | 32.00 | 37.20 | 126.96 | 289.96 | 50.38 | 467.30 |
| Lycoming | 32.66 | 22.02 | | | 54.68 | 63.65 | 7.45 | 125.78 |
| McKean | 4.28 | 1.00 | 47.50 | | 52.78 | 36.09 | | 88.87 |
| Mercer | 4.35 | | | | 4.35 | 58.75 | | 63.10 |
| Mifflin | 3.21 | | | | 3.21 | 2.36 | | 5.57 |
| Monroe | 6.23 | 3.00 | | | 9.23 | 18.46 | | 27.69 |
| Montgomery | 46.86 | 28.17 | 25.00 | | 100.03 | 173.27 | | 273.30 |
| Montour | 2.94 | | | | 2.94 | 7.66 | | 10.60 |
| Northampton | 4.47 | | 23.89 | | 28.36 | 119.15 | 11.05 | 158.56 |
| Northumberland | 25.54 | 25.50 | 7.01 | | 58.05 | 79.66 | | 137.71 |
| Perry | 2.88 | | 9.52 | | 12.40 | 11.57 | | 23.97 |
| Pike | 2.88 | .60 | | | 3.48 | 4.05 | | 7.53 |
| Potter | 6.45 | | | | 6.45 | 11.95 | | 18.40 |
| Schuylkill | 25.63 | 1.50 | | | 27.13 | 154.62 | | 181.75 |
| Snyder | 3.32 | | 50.00 | | 53.32 | 11.04 | | 64.36 |
| Somerset | 3.54 | | | | 3.54 | 37.18 | | 40.72 |
| Sullivan | 2.94 | | 25.00 | | 27.94 | 5.29 | | 33.23 |
| Susquehanna | 3.16 | | 25.00 | | 28.16 | 18.73 | | 46.89 |
| Tioga | 7.60 | 2.00 | 50.00 | | 59.60 | 19.06 | | 78.66 |
| Union | 2.94 | | | | 2.94 | 11.71 | | 14.65 |
| Venango | 8.30 | 49.76 | | | 58.06 | 37.84 | 4.60 | 100.50 |
| Warren | 3.10 | | | | 3.10 | 25.08 | | 28.18 |
| Washington | 13.04 | | 33.93 | 10.50 | 57.47 | 119.28 | 5.75 | 182.50 |
| Wayne | 3.10 | | 1.10 | | 4.20 | 16.99 | | 21.19 |
| Westmoreland | 11.33 | | | | 11.33 | 173.24 | 2.45 | 187.02 |
| Wyoming | 2.83 | 1.80 | 13.25 | | 17.88 | 9.20 | | 27.08 |
| York | 7.51 | 7.27 | 54.00 | | 68.78 | 95.90 | | 164.68 |
| Totals | 828.12 | 322.20 | 1032.10 | 110.30 | 2292.72 | 3868.99 | 235.96 | 6397.67 |

TOTAL EXPENDITURES FOR WHICH PURCHASE ORDERS WERE ISSUED

IN

| | | HARRISBURG | ALLEGHENY | PHILADELPHIA | TOTAL |
|---|---|---|---|---|---|
| OFFICE EQUIPMENT PURCHASED | | 2,527.14 | | | 2,527.14 |
| RENTALS | Addressograph | 31.11 | | | 31.11 |
| | Folding Chairs | 173.10 | | 290.25 | 463.35 |
| | Typewriters | 744.57 | 235.80 | 374.10 | 1,354.47 |
| | Adding Machines | 1,016.92 | 186.59 | 79.50 | 1,283.01 |
| | Motor Generator Set | 350.00 | | 159.80 | 509.80 |
| | Filing Cabinets | 209.53 | | | 209.53 |
| | Mimeograph Machines | 161.00 | | 57.50 | 218.50 |
| | Safe | 88.00 | | | 88.00 |
| | Calculators | 311.84 | | | 311.84 |
| | Water Coolers | | 32.00 | | 32.00 |
| | Comptometers | | 74.64 | | 74.64 |
| | Lino-a-times | | 36.00 | | 36.00 |
| | Office Equipment | | 122.80 | 607.23 | 730.03 |
| TABULATING EQUIPMENT | | | 650.66 | | 650.66 |
| | Printers | 2,394.23 | | 13,212.50 | 15,606.73 |
| | Key Punches | 8,980.53 | | 6,261.00 | 15,241.53 |
| | Horizontal Sorters | 18,837.82 | | 7,117.50 | 25,955.32 |
| | Electric Duplicating Key Punches | | | 600.00 | 600.00 |
| | Gang Punch | | | 360.00 | 360.00 |
| | Summary Card Punch | | | 180.00 | 180.00 |
| | Sorter with V Counter | 5,940.00 | | 5,860.00 | 11,800.00 |
| | Interpreter | | | 420.00 | 420.00 |
| | Checking Tabulator | | | 1,200.00 | 1,200.00 |
| | Reproducing Key Punches | 407.32 | | 259.00 | 666.32 |
| SUPPLIES PURCHASED TABULATING | Hollerith Cards | 4,598.16 | 173.38 | 8,279.20 | 13,050.74 |
| | Skip Bars | 338.20 | | 151.50 | 489.70 |
| | Ribbons | 77.70 | | 58.82 | 136.52 |
| | Electrotypes | 125.00 | | 25.00 | 150.00 |
| | Glass | 5.80 | | | 5.80 |
| SUPPLIES PURCHASED OFFICE | Maps, Blue Prints, etc. | 191.06 | 237.13 | 340.77 | 768.96 |
| | Electrical Supplies | 992.62 | | 416.86 | 1,409.48 |
| | Lumber | 1,856.08 | | 540.11 | 2,396.19 |
| | Hardware, Paint | 231.71 | | 33.50 | 265.21 |
| | Drayage and Express | 971.62 | 247.61 | 122.25 | 1,341.48 |
| | Light, Heat, Power, Maintenance | 2,306.05 | 521.35 | 5,103.21 | 7,930.61 |
| | General Supplies | 301.87 | | | 301.87 |
| | Janitor Supplies | 19.47 | | | 19.47 |
| | Miscellaneous Supplies | 727.24 | | | 727.24 |
| | Office Supplies | 7,329.17 | 505.63 | 2,920.33 | 10,755.13 |
| | First Aid Supplies | 37.65 | | 7.02 | 44.67 |
| | Postage | 1,908.00 | | | 1,908.00 |
| | Insurance | 4,500.00 | | | 4,500.00 |
| | Printing & Mimeographing | 117.30 | 877.25 | 1,769.48 | 2,764.03 |
| | Publishing Supplies | 33.07 | | | 33.07 |
| | Multilith Supplies | 199.65 | | | 199.65 |
| | Miscellaneous Publications | 14.77 | | | 14.77 |
| | Partial Payments | 300.07 | | | 300.07 |
| TOTALS | | 69,355.37 | 3,900.84 | 56,806.43 | 130,062.64 |

SOCIAL SURVEYS

OFFICE EQUIPMENT PURCHASED

| | CWA | WD | WR | TOTAL |
|---|---|---|---|---|
| Typewriter Desks, Single Pedestal | 159.00 | | | 159.00 |
| Typewriter Desks, Double Pedestal | 125.40 | | | 125.40 |
| Flat Top Desks, Double Pedestal | 371.75 | 29.20 | | 400.95 |
| Straight Back Chairs | 61.50 | | | 61.50 |
| Typist Chairs | 80.30 | | | 80.30 |
| Arm Chairs, Swivel | 20.30 | 14.70 | | 35.00 |
| Chairs, Without Arms, Swivel | 69.80 | | | 69.80 |
| Clothes Trees | 37.80 | | | 37.80 |
| Water Coolers | 72.66 | 12.65 | | 85.31 |
| Bottles for Water Coolers | 3.00 | | | 3.00 |
| Comptometer Tables | 180.00 | | | 180.00 |
| Line-A-Times | 30.24 | 36.00 | | 66.24 |
| Legal File Cabinets - 4 Drawer | 96.50 | | | 96.50 |
| Waste Baskets | 26.85 | | | 26.85 |
| Thermostat | 63.50 | | | 63.50 |
| Cot with Pillows & Mattress | 26.00 | | | 26.00 |
| First Aid Kit | 14.00 | | | 14.00 |
| Flat Top Desk (50 in) | | 77.70 | | 77.70 |
| Oak Table (60 in) | | 11.55 | | 11.55 |
| Stenographer Desks (33 in) | | 17.85 | | 17.85 |
| Thermometers | | 13.79 | | 13.79 |
| Error "No" Copy Holders | | 117.09 | | 117.09 |
| 12 - 2½ Gal. Fire Extinguishers | | 78.00 | | 78.00 |
| 1 - 1 qt. Pyrene | | 6.13 | | 6.13 |
| 24 - 60 Cycle Electric Fans | | 355.68 | | 355.68 |
| Legal Size Steel Filing Cabinets | | 165.75 | 82.88 | 248.63 |
| Desk Lights | | | 17.70 | 17.70 |
| Error No Machines | | | 65.66 | 65.66 |
| | 1,438.60 | 936.09 | 166.24 | 2,540.93 |

In addition to those mentioned the following persons aided in the preparation and publication of this report:

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Irvin Wingeard
Helen Wolfe

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